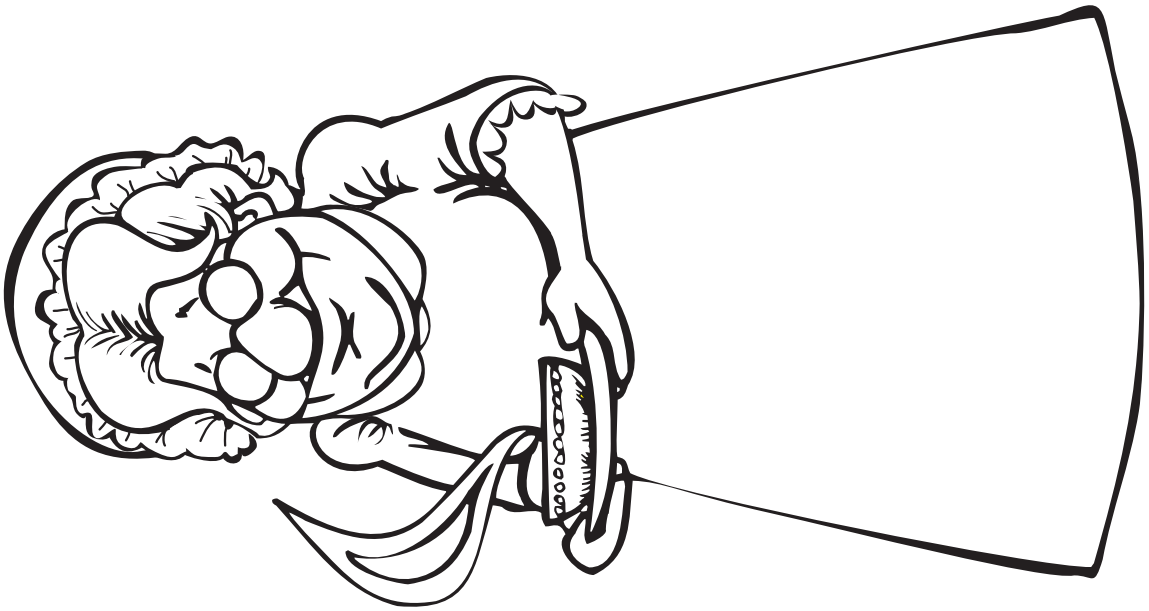
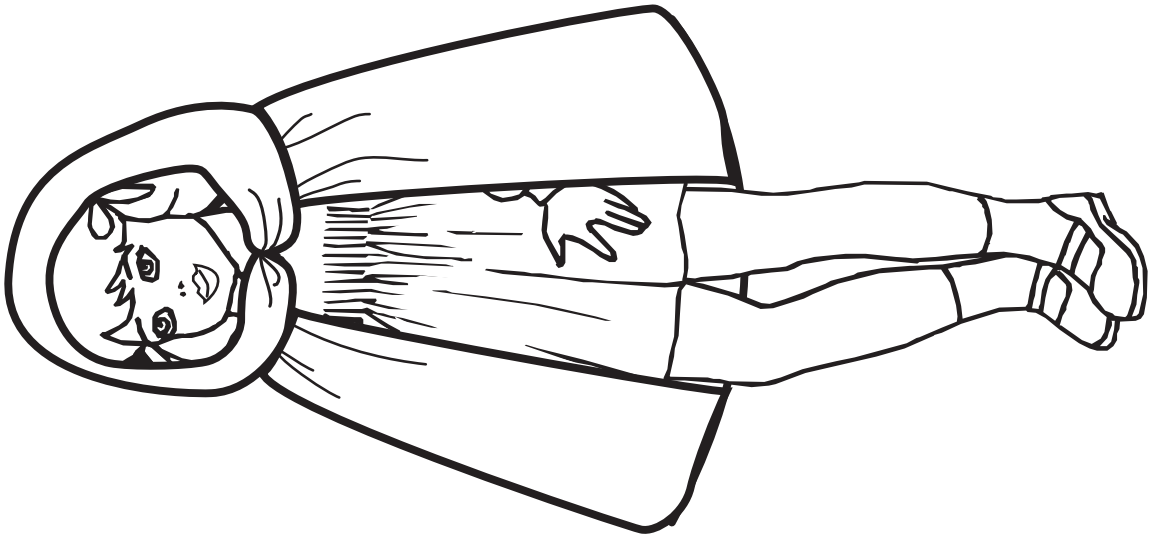


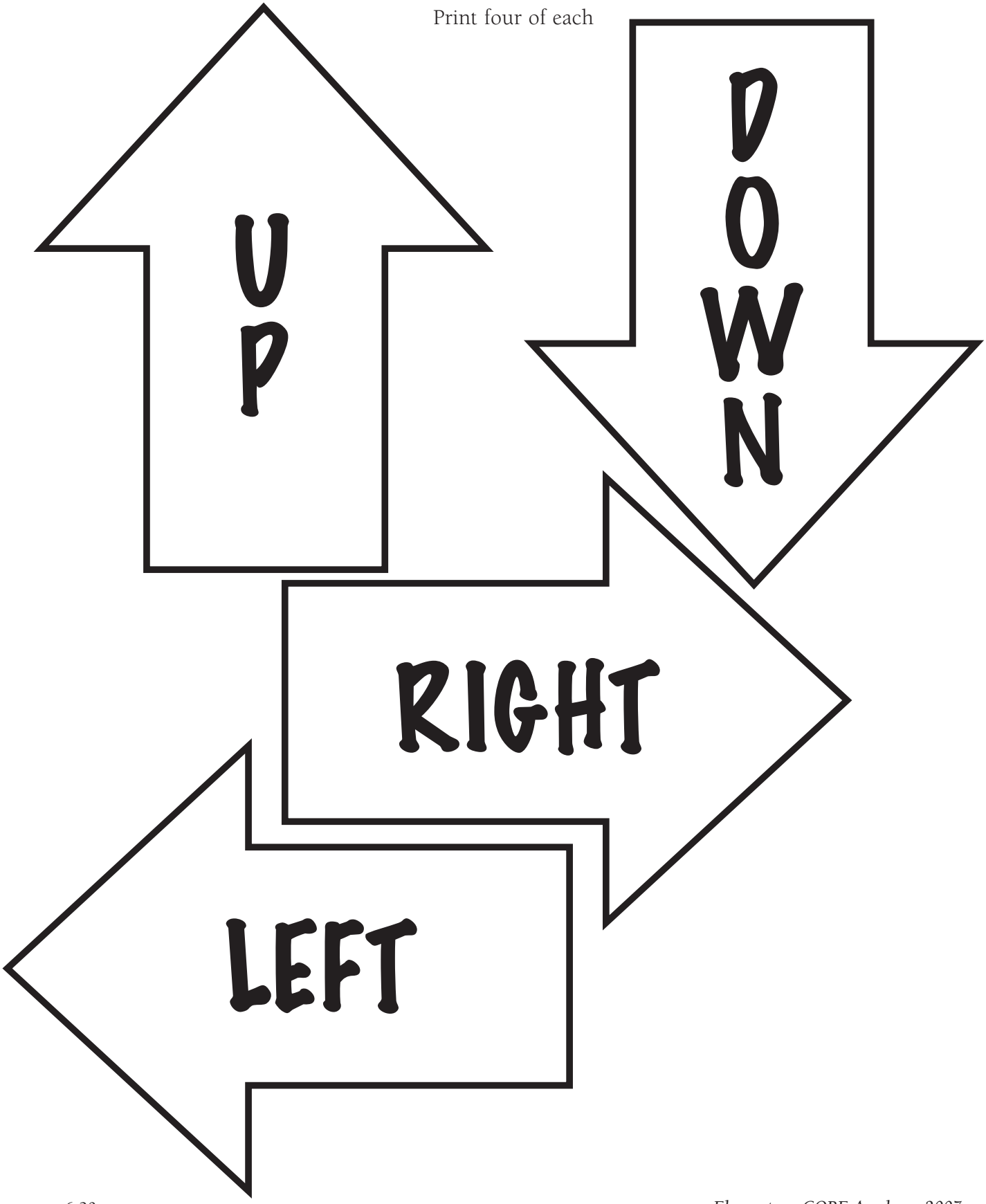
Grandmother



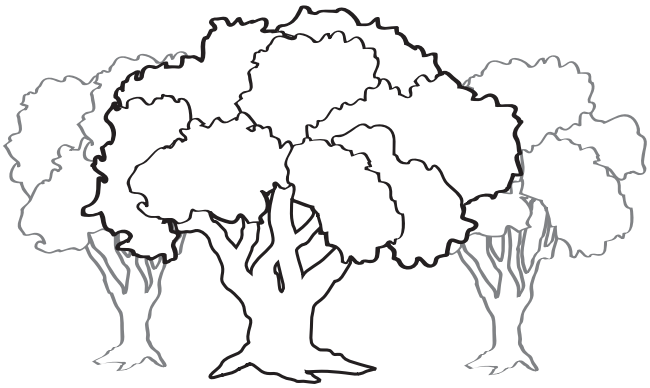
Red Riding Hood

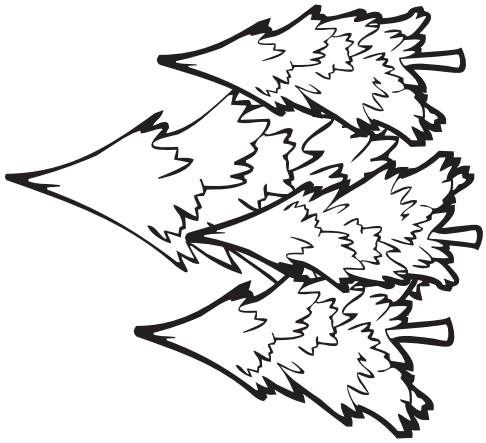
Arrows

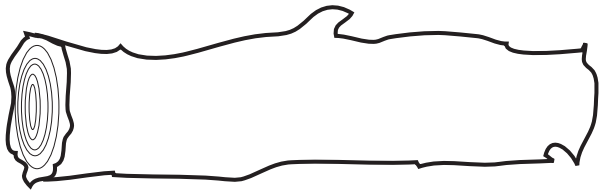
Print four of each

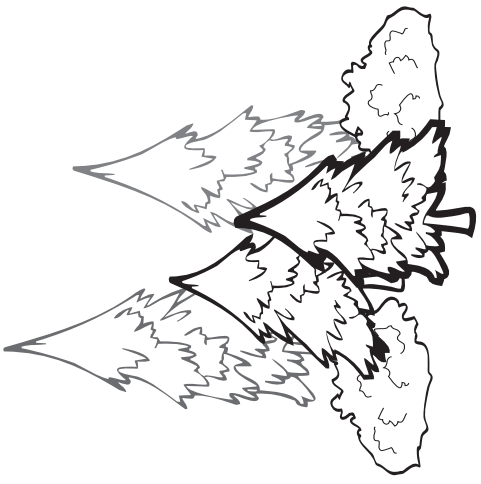


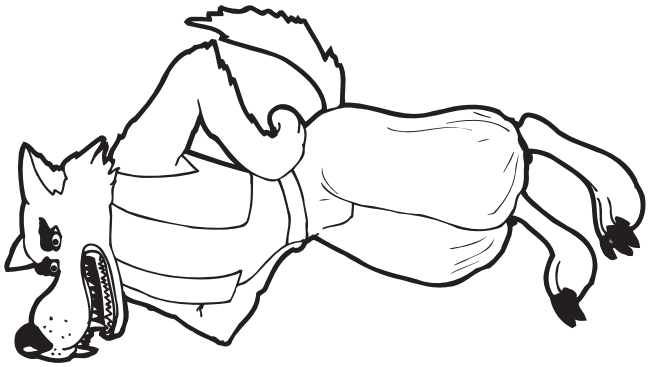
Small Little Red Riding Hood Cutouts

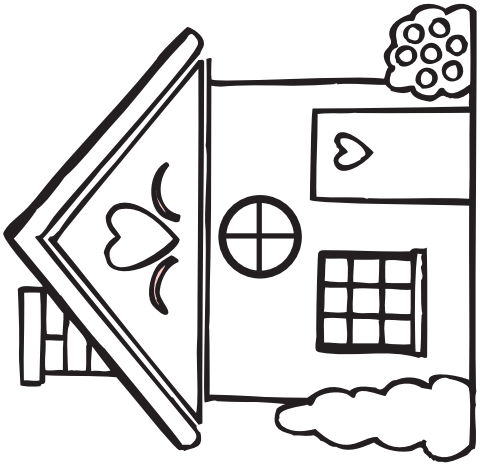


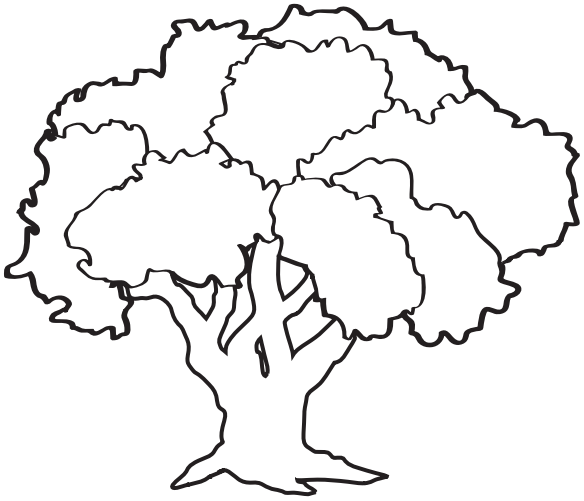


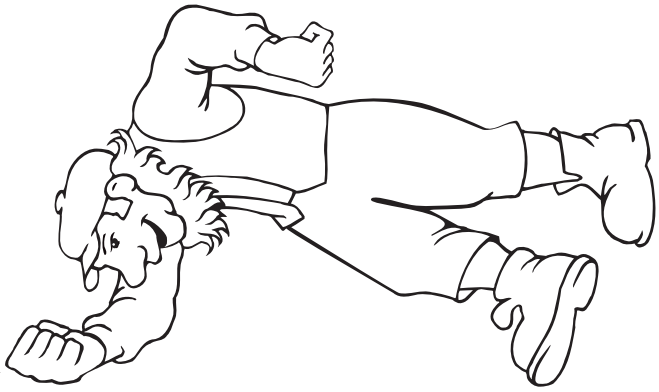


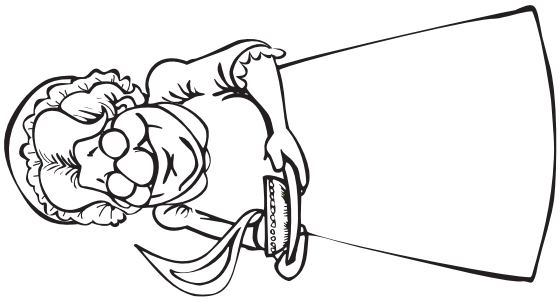


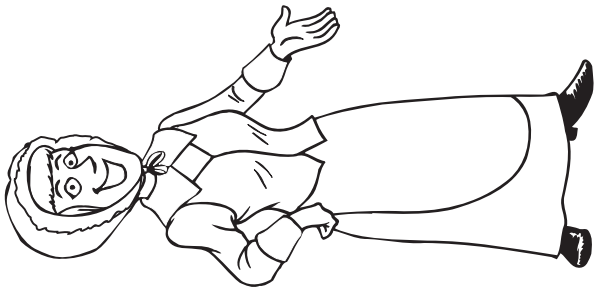


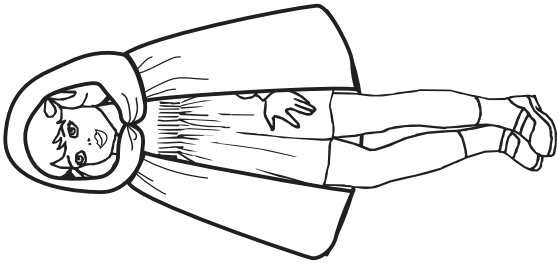




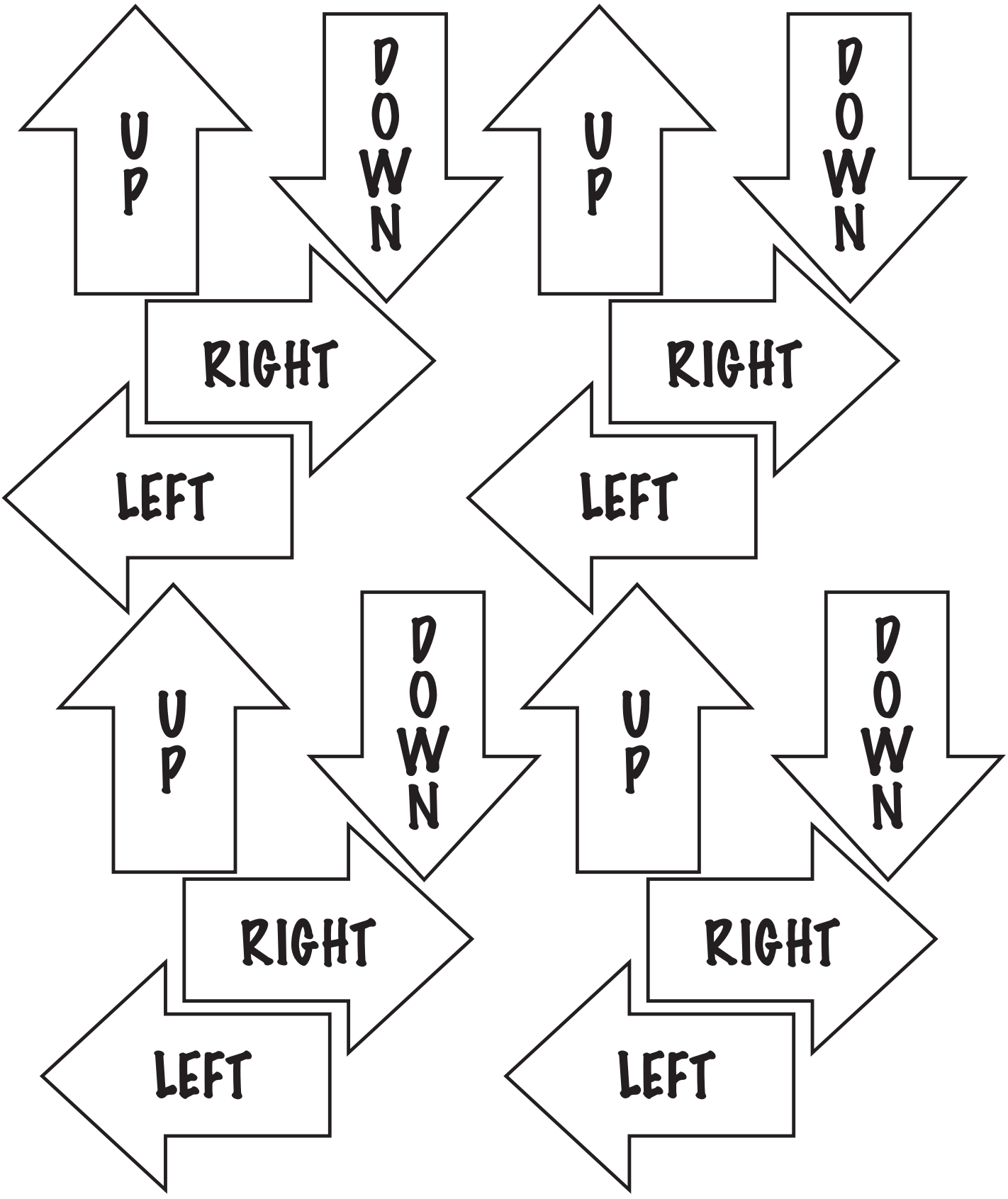




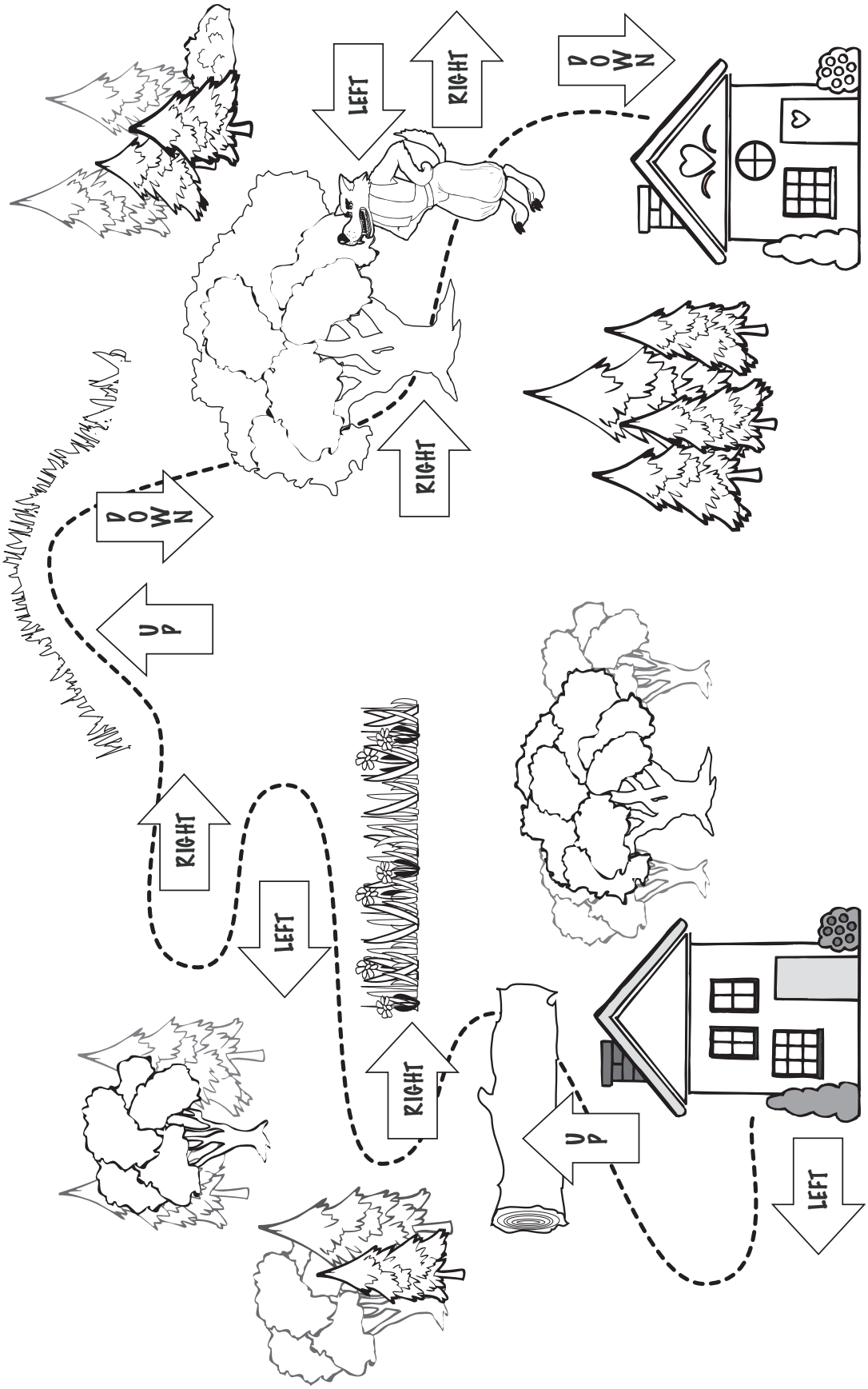




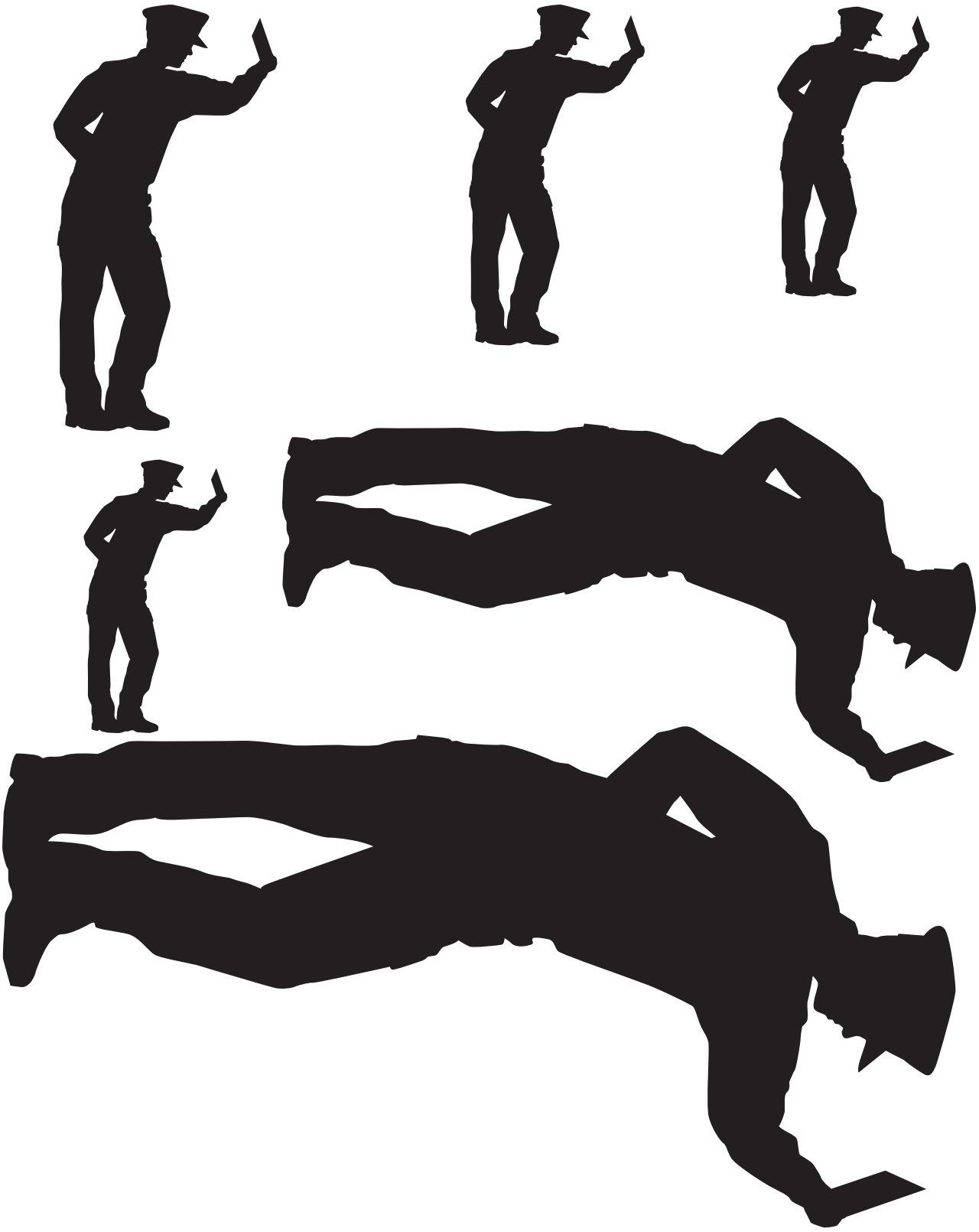
Small Arrows

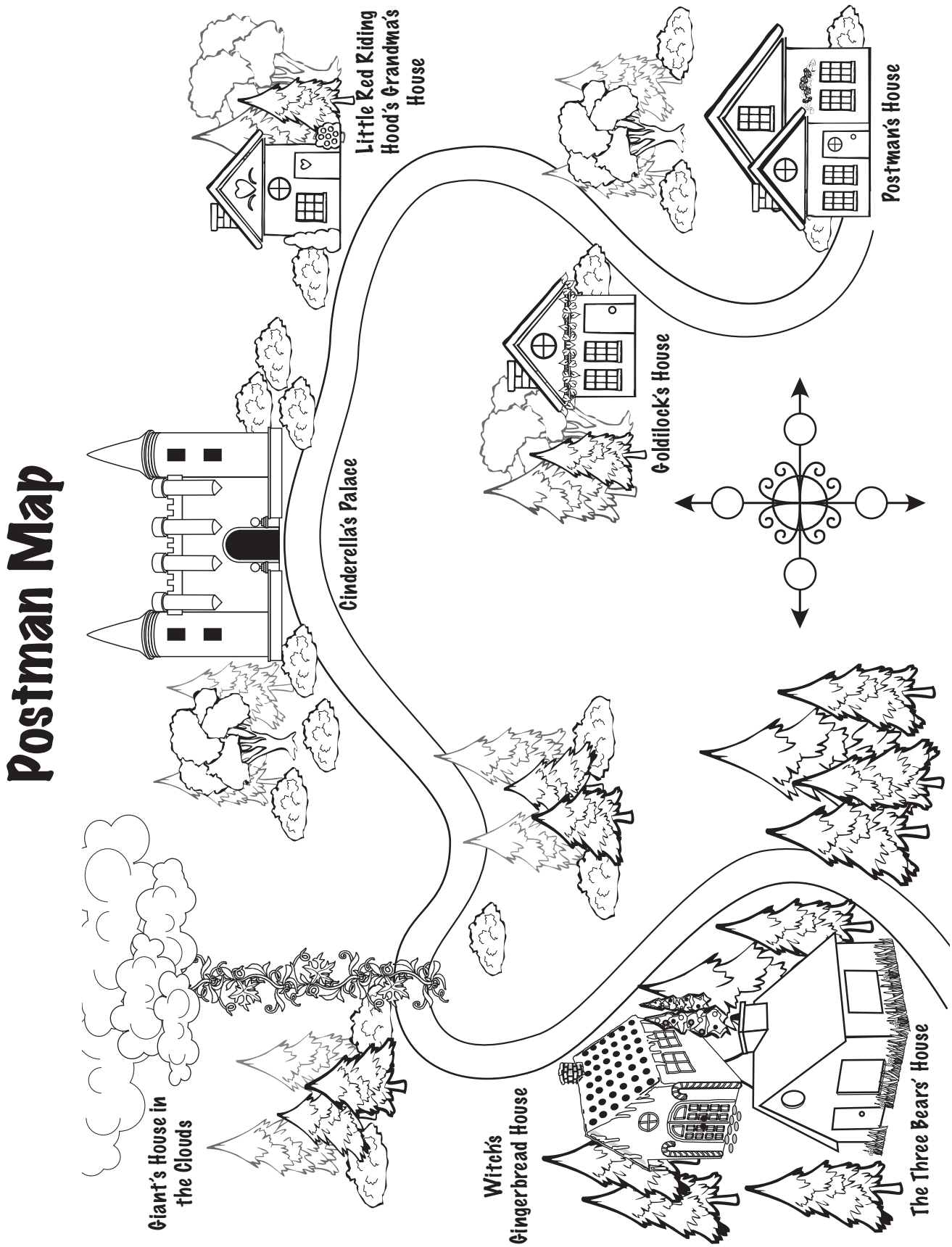


Little Red Riding Hood Map

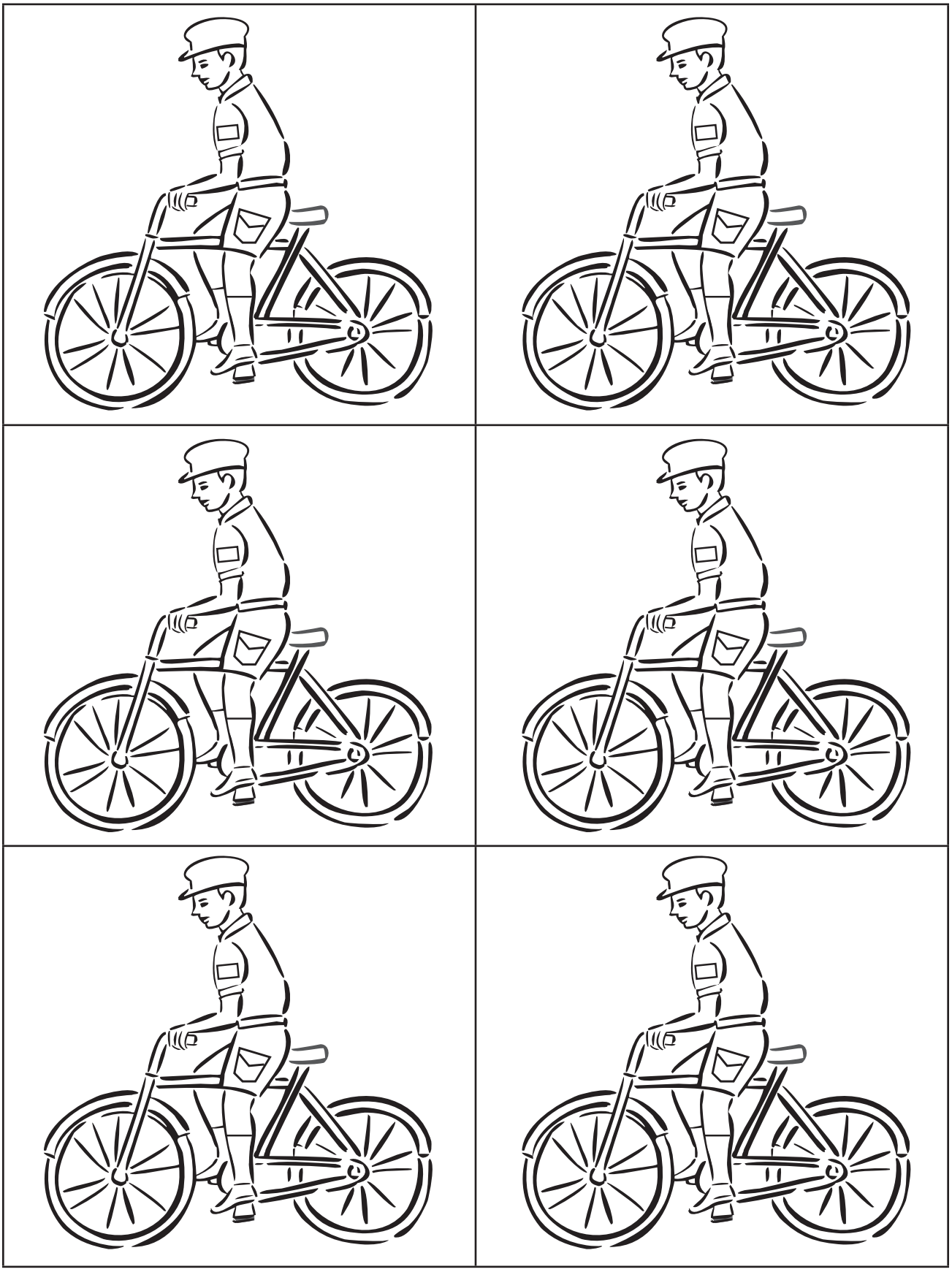


Postman Silhouette




Postman Map
Little Red Riding Hood's Grandma's House
Postman's House
Cinderella's Palace
Goldilock's House
Giant's House in the Clouds
Witch's Gingerbread House
The Three Bears' House

Postman Cutouts



Let's Take a Trip!

Content Standard III

Objective 3

Standard III:
Students will develop an understanding of their environment.

Objective 3:
Recognize symbols and models used to represent features of the environment.

Intended Learning Outcomes:
5. Understand and use basic concepts and skills
6. Communicate clearly in oral, artistic, written, and nonverbal skills.

Content Connections:
Language Arts, VII-1, 6; writing and presenting
Content, III-1; weather and environment
Math, III-2; using calendars

Connections

Background Information

Children need to develop the understanding that maps and globes represent real places and that there are many different environments in the world. One way to begin to make this connection is to have students locate areas on maps and globes and for the students to learn a little about different locations, thus making the places seem "real." In the book *Toot and Puddle* by Holly Hobbie, the character Toot travels around the world for a year while his friend Puddle stays home. In each different country, Toot sends a postcard to Puddle. The reader learns what sorts of activities Toot does in different parts of the world based on the climate. The reader also sees what types of activities Puddle does back home in Woodcock Pocket, Massachusetts. After reading the story, the students will have the opportunity to decide where they would like to travel. Like Toot, they will be writing a postcard home to their friends to tell them about their trip. As teachers, we know that with scaffolding (carefully planned support), a somewhat difficult activity can be accomplished by the students. This increases learning and the value of the activity. We also want to involve students' families in their education. Therefore, part of this activity requires a home/parent involvement. However, it can be adjusted to work using aides in the classroom.

Research Basis

Bredekamp, S. & Copple, C., (eds.) (1997) ***developmentally appropriate practices in early childhood programs*** (rev. ed). Washington DC: National Association for the Education of Young Children. 22, 99.

A developmentally appropriate classroom is strengthened by the teacher's knowledge of how each individual child learns. In an early

childhood classroom, it is necessary for the teacher to learn about each child through a positive relationship with the child's family. A positive, strong, reciprocal relationship between teacher and family requires "mutual respect, cooperation, shared responsibility and negotiation of conflicts toward achievement of shared goals"(pg 22). Teachers and parents need to work together on a child's education. According to Vygotsky, children need opportunities to work in challenging learning situations where, assisted by adults or peers, they can achieve tasks that would otherwise frustrate them. When given a difficult task and given assistance with positive adult guidance, children are more likely to take initiative and work through the task thus feeling success and acquiring important skills and concepts.

Frazee, B. & Guardia, W. (1994). *Helping your child with maps and globes*. Glenview, IL. GoodYearBooks, Scott Foresman. 155

As quoted from the authors, "As children begin to understand and work with maps, they should also begin to locate places on the globe. Familiar locations can be discussed and located on a map and then compared to the same area on the globe. The teacher should use every opportunity possible to compare and refer to the globe when studying maps because the globe shows the whole earth. Early exposure to the globe is essential because it shows worldwide relationships."

Haury, D. & Milbourne, L. (2000). Helping students with homework in science and math. *ERIC Digest*. Retrieved 11/28/2006. From http://www.eric.ed.gov.

Teachers need to develop meaningful homework. One benefit of meaningful homework is that it can help students develop mastery of a concept that they have been learning in the classroom. Homework needs be a good learning experience for students and should be carefully planned by the teacher to have meaning to the students. Parents who help their children with homework naturally become more involved in their child's education and are more aware of what is happening in the school. This in turn can lead to a more positive relationship between teachers and parents.

Invitation to Learn

Tell the students that they are going to learn about a pig who loves to travel. They will get to learn a little about all the places that he visits. Ask the students to pay close attention to the types of activities that the pig is doing in each place that he visits and the type of clothing he needs for each area. In the book, the pig's best friend stays home. Tell the students to pay attention to the types of activities that the friend does at home during the year. Before reading, place a sticker on the map and blow-up globe to show where the students are and where Toot and Puddle live (near Boston).

Instructional Procedures

1. While reading the story *Toot and Puddle,* each time Toot travels to a new country, find it on the map and on the globe and mark it with a sticker. Remember to compare where Puddle is to all the places that Toot visits.
2. Discuss the weather where Toot and Puddle are and the types of activities that each pig is doing each month in the story. Discuss what types of clothing they are wearing.
3. After reading the story—if appropriate—ask the students where they have traveled. Find some of the areas on the map and the globe. What did they need to bring on their trip?
4. Tell the students about a place where you would like to travel. Locate it on the map and the globe. Talk about the types of clothing that you would need to pack based on the weather. Talk about the types of activities that you would like to do there. Or, if possible, talk about a place that you have visited, show pictures, etc.
5. Show students a prepared copy of the suitcase, clothing, airplane ticket, and postcard (these should match the area that you talked about visiting). Instructions for assembling the suitcase are included in the letter to parents. Show the students how to pack the suitcase and the type of clothing that they would pack if it were a hot or cold area that they want to visit.
6. Tell students that now they get to go on an (imaginary) trip just like Toot. They will be taking the blacklines home to work on with their families. They will need to decide where they want to travel to, fill in the airplane ticket, pack their suitcases with the correct type of clothing, and write a postcard to the class about their "trip." In a few days, they will need to bring all their travel papers back to school. Then everyone will get a chance to share their trip with the class.
7. Give each student the parent letter, suitcase blacklines, three sets of Velcro to seal the suitcase, both clothing blacklines, airplane ticket blackline, and postcard blackline.
8. Pick several days to have the students tell the class about their "trip." As students talk about the places that they "visited," locate each area on the map and the inflatable globe and mark it with a sticker. Students should show their airplane tickets, suitcase with vacation clothing, and read the postcard to the class.

Materials

- ❑ *Toot and Puddle*
- ❑ Map of the World
- ❑ Inflatable globe
- ❑ Stickers
- ❑ *Suitcase A and B*
- ❑ Velcro
- ❑ *Warm and Cold Clothing*
- ❑ *Airplane Ticket*
- ❑ *Postcard*
- ❑ *Letter to Parents*

Assessment Suggestions

- Observe students as they present their "trips" in front of the class. Check to see that they have a general understanding of the locations that they "visited." Do the pictures on the postcards match the general climates of the locations? Did they "pack" the correct type of clothing? Do they know the general areas of the world where they took their trips?
- Check for the basic understanding that maps and globes represent real places.
- Check writings and drawings for developmentally appropriate work.

Curriculum Extensions/Adaptations/ Integration

- If this activity needs to be adjusted for a center or to work with aides/volunteers directly in the classroom, pick several different areas that the children can "visit" (e.g. Disneyland, Hawaii, Paris, etc.) Briefly talk about these areas and the type of clothing the children will need to "pack" in their suitcase. Then let them choose one of the discussed areas to visit and direct their work on the airplane ticket and postcard accordingly.
- Graph how many students chose to travel to a warm climate versus how many chose to travel to a cold climate. How many traveled to the same location?
- Use a calendar to track where Toot is each month. Talk about what the weather is like each month for Puddle, who stays home.
- Use *Google Earth* to locate the places that Toot visits. Also, find your school, the students' homes, etc. Use *Google Earth* any time that your class is learning a new location.
- Put travel brochures and blank postcards in the writing center.
- Ask a mail carrier to visit the classroom, or take a trip to the post office to see how mail gets from one place to another.

Family Connections

- Invite students' family members to the classroom to talk about places they have visited.

- Have students ask family members or family friends to send postcards to the class when they go on trips. Remember to mark the locations on the map and the globe.
- Collect stamps from mail that students and their families receive and locate the country of origin on a map and globe.

Additional Resources

Books

Toot and Puddle, by Holly Hobbie; ISBN 0-316-36552-1

Toot and Puddle: Top of the World, by Holly Hobbie; ISBN 0-316-36513-0

Toot and Puddle: Wish You Were Here, by Holly Hobbie; ISBN 0-316-36602-1

Toot and Puddle: I'll be Home for Christmas, by Holly Hobbie; ISBN 0-316-36623-4

The Amazing Pop-up Geography Book, by Kate Petty & Jennie Maizels; ISBN 0-525-46438-7

How to Make an Apple Pie and See the World, by Majorie Priceman; ISBN 0-679-88083-6

Maps and Globes, by Jack Knowlton; ISBN-13: 978-0-06-446049-1

Helping Your Child with Maps and Globes, by Bruce Frazee & William Guardia; ISBN 0-673-36131-4

Media

Toot and Puddle: I'll be Home for Christmas, National Geographic Kids, Warner Home Video; ISBN 978-1-4262-9010-7

Articles

Rhyme Time: Harmony by Douglas Florian, National Geographic Young Explorer, January-February 2007,1(4), National Geographic Society; ISSN 1930-8116

Web sites

http://www.googleearth.com

http://www.ehoesc.org/Trip_Around_World/trip-around-world1.htm

Letter to Parents

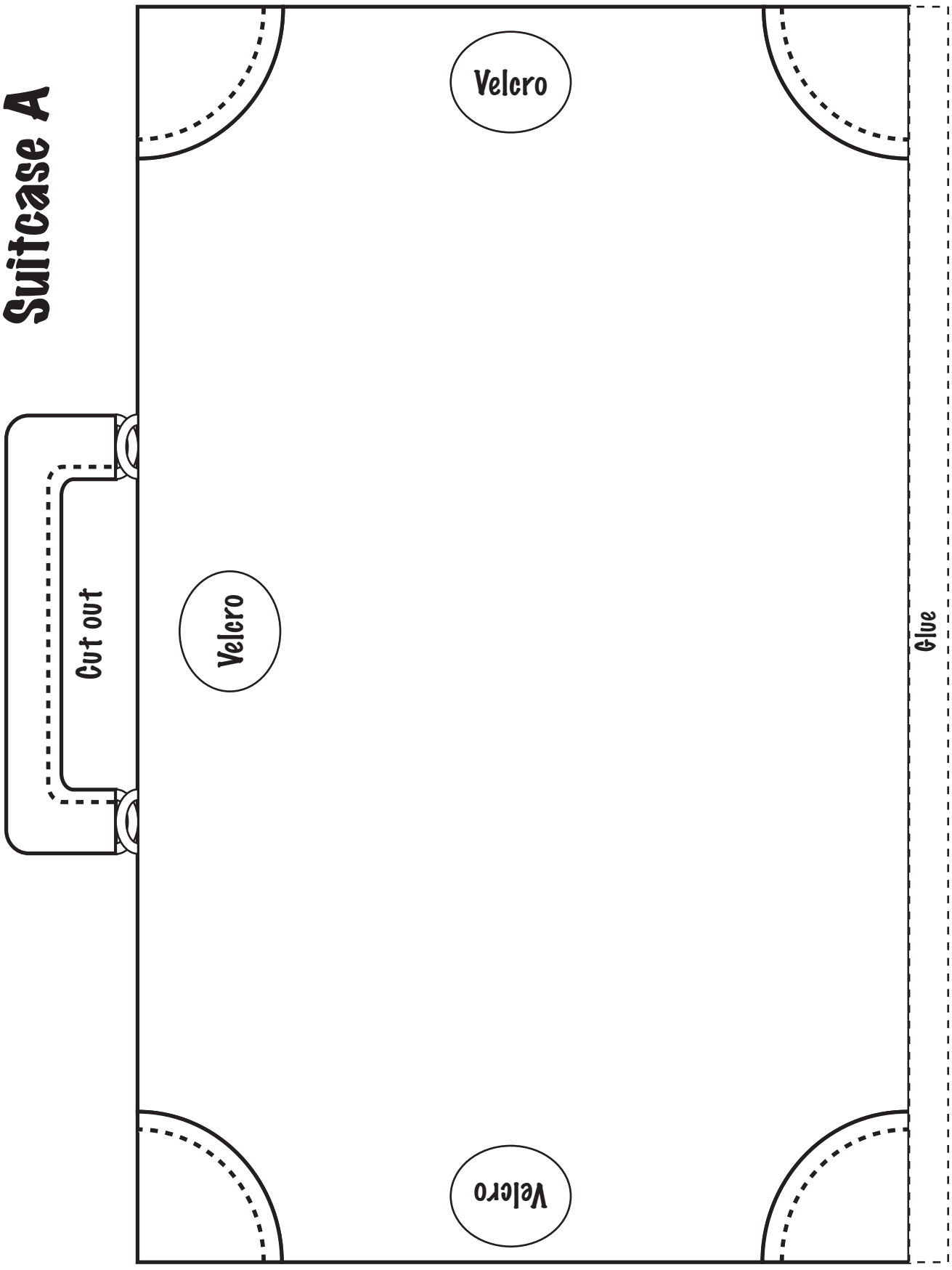
Dear Parents

We have been learning about maps and globes. We read the story *Toot and Puddle* by Holly Hobbie. It is about a pig that travels all over the world. We are going to pretend to take a trip, too. Please help your child with this fun activity. Here is what you need to do:

1. Talk about different places in the world that your child may enjoy visiting. Look up the areas on a map or globe if you have one handy. Talk about the type of weather in the different places and types of activities that you can do in each place. Then, let your child pick one place.
2. Help your child plan his/her "trip." Have your child fill out the plane ticket. Encourage him/her to write his/her first and last name. Help sound the spelling of the destination. You can write it on a separate piece of paper, but your child should have the opportunity to write it on his/her own.
3. Discuss with your child a scene that he/she could draw on the front of the postcard that is representative of the area that he/she will be "visiting." Have your child draw a picture on the front of the postcard. Help him/her address the postcard to the class and to write or draw about something he/she did on his/her "trip."
4. Your child will need to color, cut out, and assemble the suitcase. To assemble the suitcase, cut out along all the thick black lines including the inside of the handle. Glue along the bottom of both piece A and piece B of the suitcase. In order to open and close the suitcase, use the provided Velcro. Stick the individual pieces in the indicated spots on the suitcase. Now your child can open and close the suitcase to pack.
5. Have him/her decide what type of clothing will be needed on the "trip." Your child will need to color, cut, and "pack" the needed clothing from the warm or cold weather clothing pages.
6. Help your child be prepared to talk about his/her "trip" with the class as each student will have the opportunity to present in front of the class. Each student will help me find his/her vacation destination on the map and globe, show the class his/her airplane ticket, show us what clothing he/she needed to pack, talk about some of the activities that he/she "did" on the "trip," and read us the postcard.
7. Please send back finished airplane ticket, postcard, and suitcase packed with the appropriate clothing back to school by _____.

If you need any help or have any questions, please let me know. I do not want anybody to be left out of the fun. I hope that this will be a wonderful learning opportunity for you and your child and that you will both enjoy working on this together.

Thanks,


Suitcase A
Velcro
Velcro
Cut out
Velcro
Glue

Suitcase B

Velcro

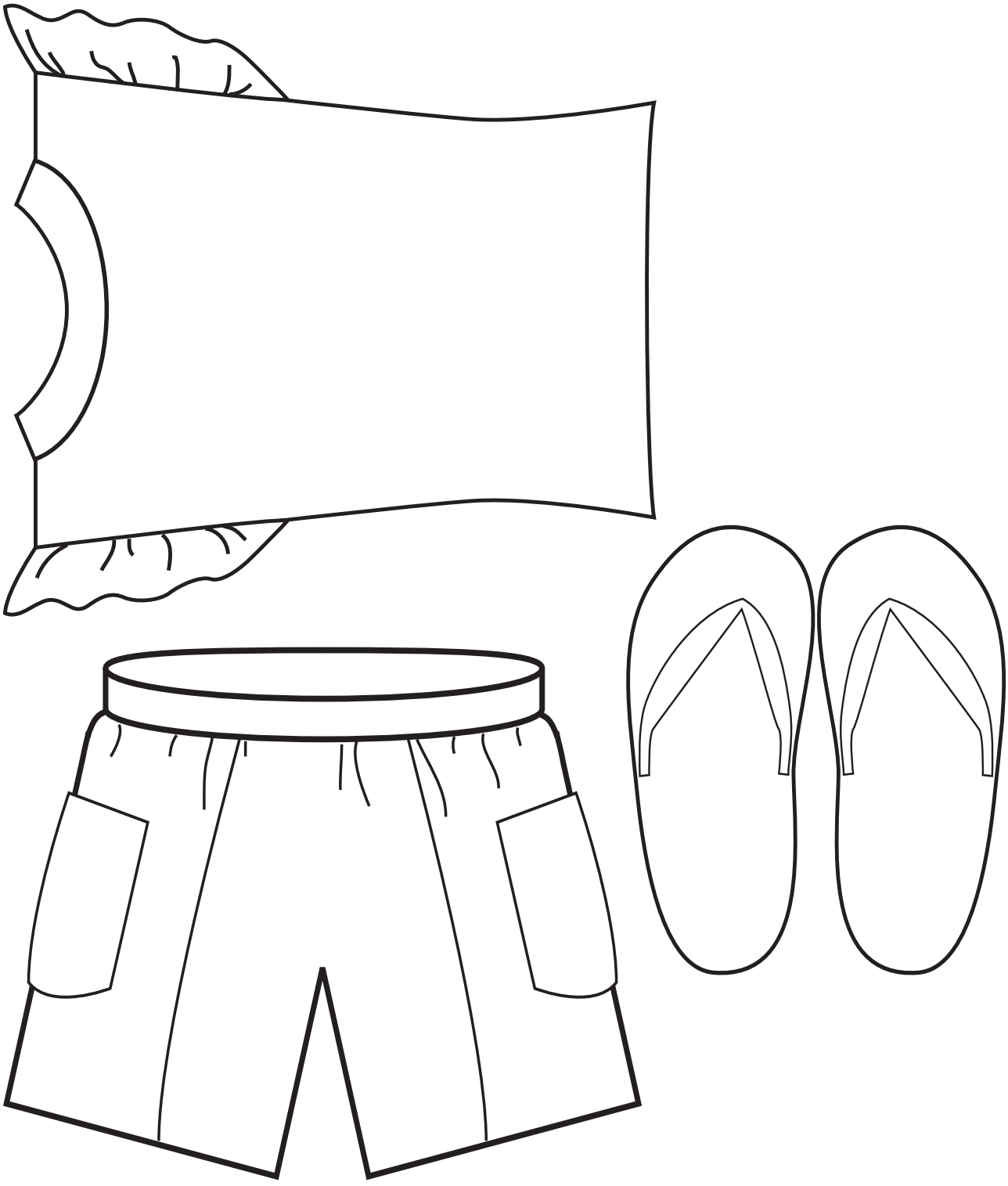
Velcro

Velcro

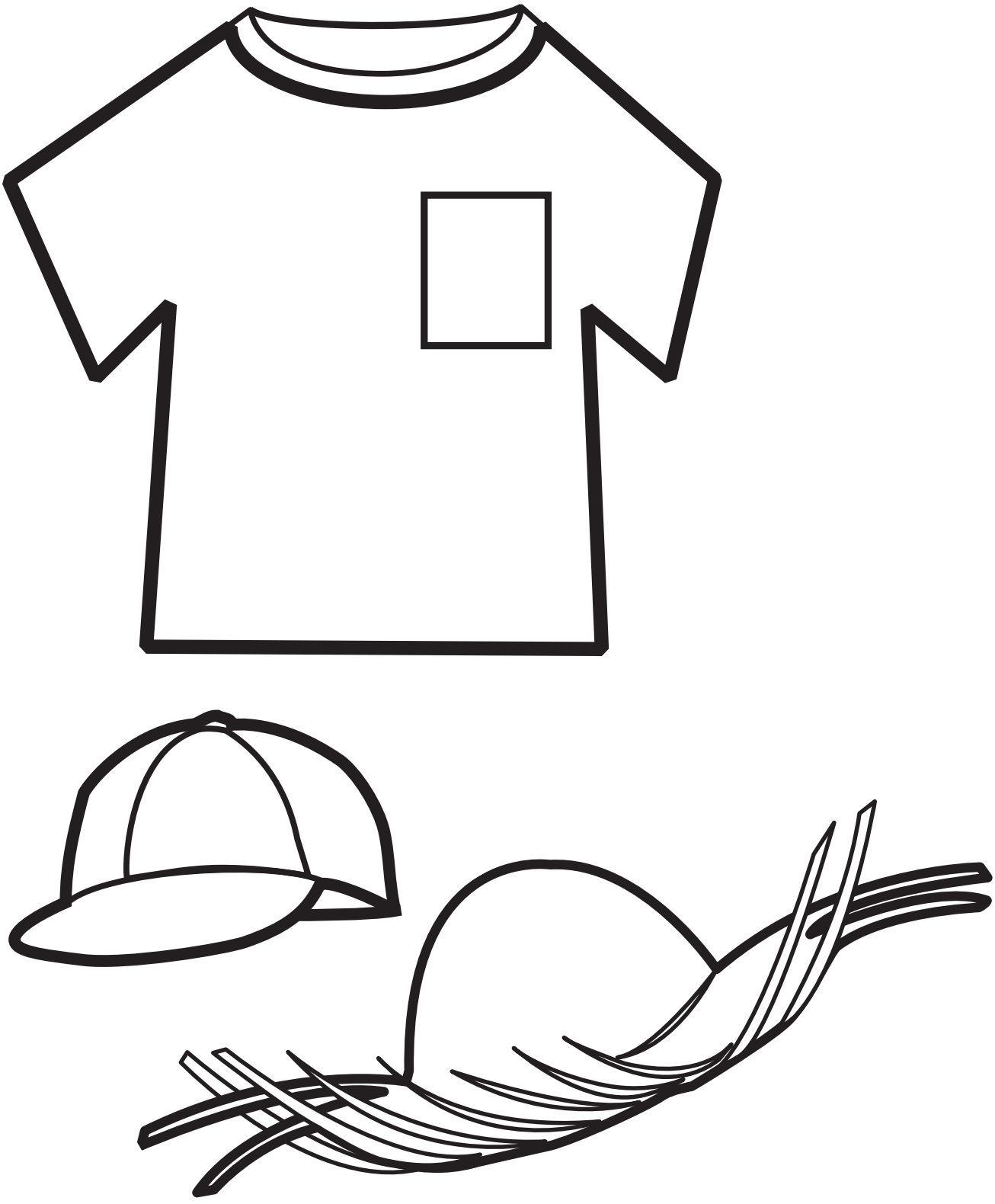
Cut out

Glue

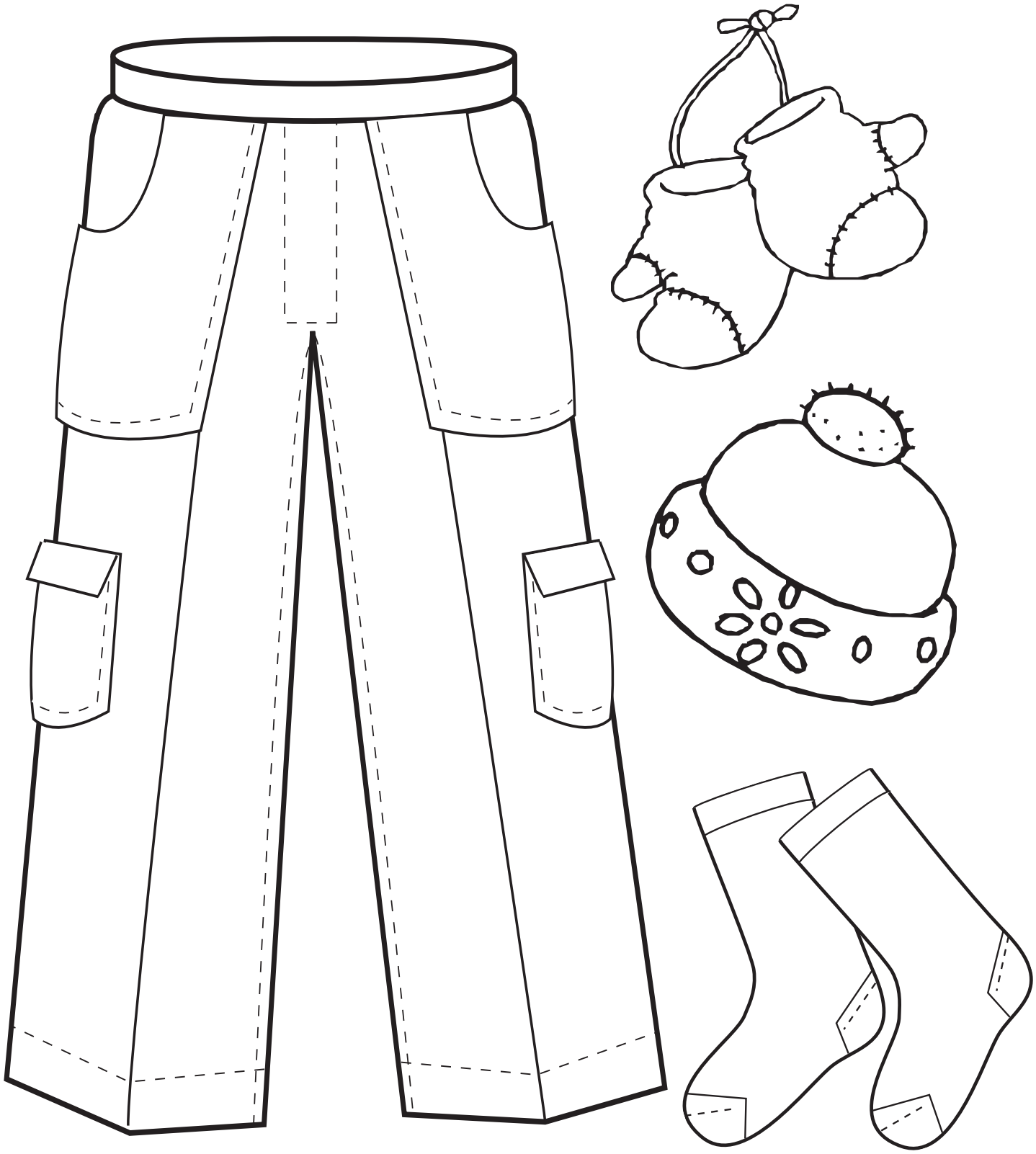
Clothing for Warm Climate



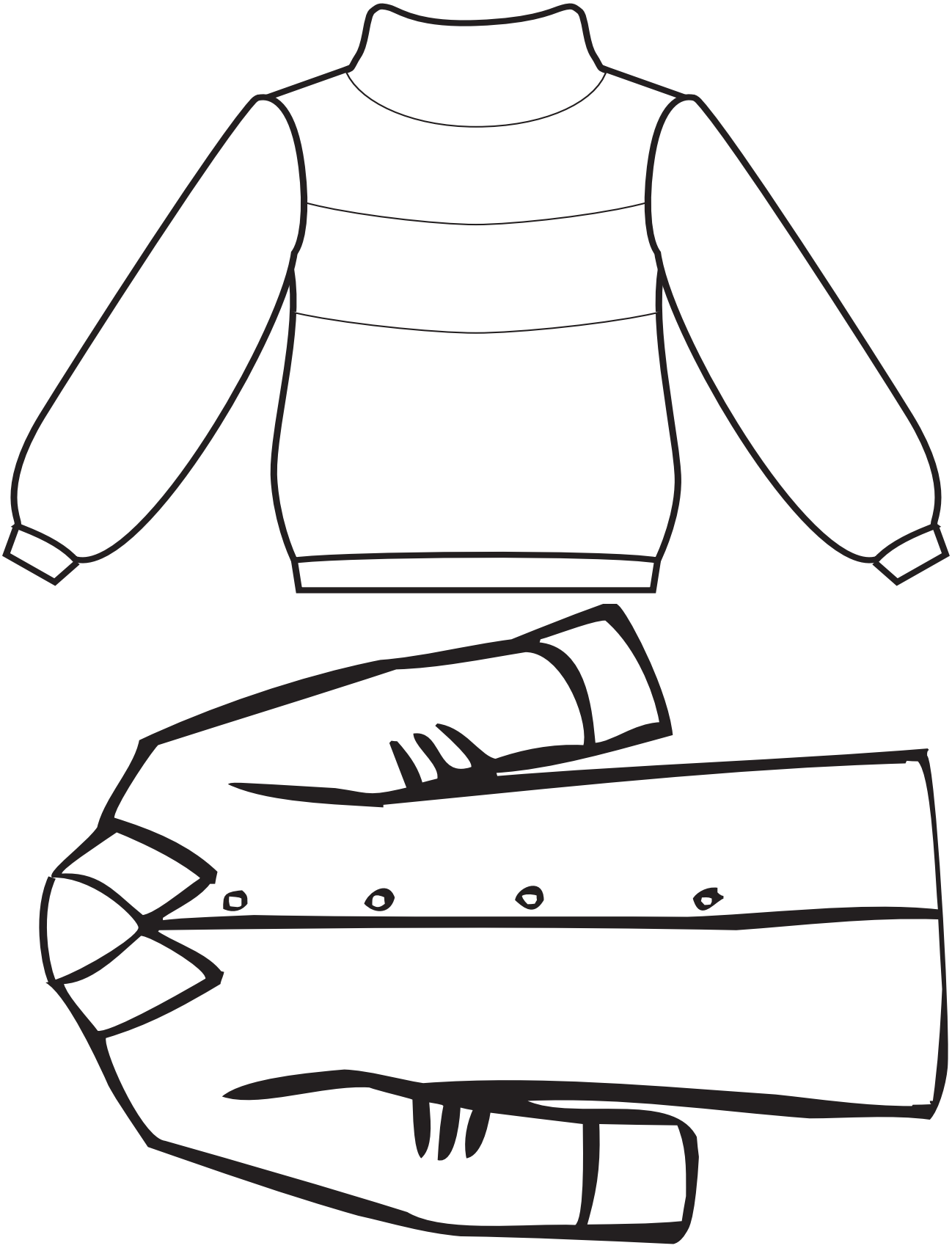
Clothing for Warm Climate



Clothing for Cold Climate



Clothing for Cold Climate



Airplane Ticket

KINDERGARTEN AIRLINES

Passenger _____

Destination _____

KINDERGARTEN AIRLINES

Passenger _____

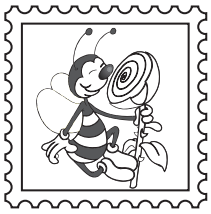
Destination _____

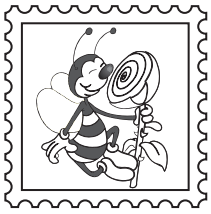
KINDERGARTEN AIRLINES

Passenger _____

Destination _____

Postcard





Math III-3
Activities

Data & Graphing

Graphing It Daily

Standard III:

Students will understand basic geometry and measurement concepts as well as collect and organize data.

Objective 3:

Collect and organize simple data.

Intended Learning Outcomes:

1. Demonstrate a positive learning attitude.
2. Understand and use basic concepts and skills.
3. Communicate clearly in oral, artistic, written, and nonverbal form.

Content Connections:

Math, I-1; number concepts & relationships
Language Arts, I, IV, VI, VII; oral language, phonics, vocabulary, comprehension

Math Standard III

Objective 3

Connections

Background Information

Daily graphing activities include using a personal item that would be of interest to children. The everyday activity of classifying, analyzing and interpreting classifications and drawing conclusions are some of the essential intellectual tasks that people perform. These lifetime skills begin well before kindergarten. Graphing is an extension of a students' natural interest in sorting objects. It is a powerful tool that young children can use to arrange information and establish order.

I have a math bulletin board in my room that is used strictly for the "graph of the day". On top of the board, I place the question for the day. On the rim of the chalk tray below the bulletin board, I place the categories for the graph. Each student has a square wood block with their copied black and white picture that has been decorated by the student. (The block also could be decorated and just have their name on it) When the A.M. kindergarten students arrive in the morning or the P.M. kindergarten students arrive in the afternoon, they read the question on the board (or ask the teacher or a classmate to read it) and place their block accordingly. This is just one way of recording the data, using a wide assortment of materials and a variety of organizational methods. This encourages flexible thinking and enables the children to experience many different ways of arranging information which are equally valid. During our calendar time, we discuss our graphing using vocabulary like: how many, most, least, etc. A teacher can ask graphing questions that correlate with the time of year. For example: How do you get to school. (Bus, Walk, Car)

Research Basis

Alex Bogomolny (1999). *Cut the knot! Where to start?* Maa online, the mathematical association of america. Retrieved December 27, 2006, from https://www.maa.org/editorial/knot/reform.html

Research findings from psychology indicate that learning does not occur by passive absorption alone. Instead, in many situations, individuals approach a new task with prior knowledge, assimilate new information, and construct their own meanings.

Teachers need to create an environment that encourages children to explore, develop, test, discuss, and apply ideas. They need to listen carefully to children and to guide the development of their ideas.

Hurst C. O., and Otis R. (1996), *data gathering and analyzing, picturing math pre-kindergarten through 2nd grade*, chapter 1, sec.3. Retrieved December 30, 2006, from http://www.carolhurst.com/subjets/math/datagather.html.

Gathering data is a frequent part of solving problems and satisfying curiosity. When we conduct surveys and draw conclusions from them, we are gathering and analyzing data. This includes a lot of work with graphs and leads to mathematical tools like averaging and other computations.

Invitation to Learn

Collecting data as the children arrive is a great attention getter. Collecting data can be done in a variety of ways, using as many different methods and materials as possible help build a lot of curiosity and interest on a daily basis.

Before starting the class daily graph read the children's book *Just Graph it!* By CTP Creative Teaching Press. This is a fun short story that is telling the children if there is something they want to know, just graph it.

Instructional Procedures

Materials

- ❑ Magnetic dry erase board
- ❑ Picture of each student
- ❑ Poster board
- ❑ Hot glue gun
- ❑ Dry erase markers
- ❑ *Just Graph It*

1. The classroom teacher will prepare the daily classroom graph in advance.

Additional classroom graph suggestions:

- A large cake pan with a graph drawn on it or an 18" by 22" magnetic dry erase board. (Make sure it is the right kind of pan that would work with a magnet.) Each child will be given a jumbo clear accent gem. A small picture will be mod-podged on the flat part of the gem. (This could be a picture of the children or a symbol representing each class.) Then a small heavy piece of poster board will be glued to the picture and

a magnet will be hot glued to the poster board. The students will graph their responses by putting their magnet under the correct category.

- One square block for each child or a stackable manipulative that can be decorated and written on.
- Flat rectangular oil drip pan (for cars) approximately 3 x 5 (about 10 dollars at checkers).
- Clear contact paper
- Kerr canning lids (one for each student and the teacher)
- Colored construction paper (preferably a light color)
- Two rolls of stick on strip magnets or other magnets that have a sticky back.
- Sentence strips
- Clear heavy plastic
- Colored masking tape

Cover the oil pan with the clear contact paper. Draw a simple grid. Six rows going horizontally work great. Leave about three or four inches open at one end to write in the answers to the questions. If you leave the right end open, this allows 14 votes in any one row. Cut circles to fit inside the lids. Prepare the Kerr lids by attaching the magnets on the back. Have the children draw their faces and write their name inside the bottom arch to make it special identification badge. (If you have student pictures, these could be used instead.) Make a clear slot by taping with colored masking tape around heavy duty plastic, leaving one end open for a sentence strip. When posting a graphing question, write it on a sentence strip and slide it into the slot provided at the top of the oil pan. The children will use the juice lid to place their vote on the graph. On the bottom of the graph will be smaller clear slots to put the categories in. You could write the category or have a picture to represent the category.

2. Each day as the students arrive they participate in the daily data collection and graphing experience by adding to the class data.
3. After each student has participated, the teacher leads a discussion about the data collected. This could be a part of your calendar activities.
4. Below is an extensive list of graphing questions:
   A. Two Group Graphs:
      - Which do you like to color with? Crayons, markers
      - Which milk do you like? White, chocolate
      - Do you brush and floss? Brush only, brush & floss

- Which do you like best? Celery, carrot
- Are you left or right handed?
- Are you a boy or a girl?
- Where your hands clean or dirty when you came into the class?
- Did you wear a coat or a sweater?
- Do you like baths or showers?
- How did you feel about coming to school? Happy, sad

B. More than two groups:

- How did you get to school? Bus, walk, car
- How did you feel on the first day of school? Scared, excited, nervous
- How do you like your apples? Sliced, sauce, baked
- How do you fasten your shoes? Buckles, laces, Velcro
- Would you rather have a pet with … Fur, Fins, Feathers
- What kind of Pizza do you like? Cheese, Pepperoni, Sausage
- Which soup do you like best? Chicken Noodle, Vegetable, Tomato
- What is you favorite meal? Breakfast, Lunch, Dinner
- How old are you? 5, 6, 7
- What is your favorite sport? Football, baseball, basketball
- What is your favorite dessert? Ice cream, cake, pie
- Which fast, food restaurant do you like best? Wendy's, Burger King, McDonald's
- How do you feel today? Happy, Mad, Sad
- What time did you go to bed last night? 8 o'clock, 9 o'clock, Later
- How many televisions are in your house? 1, 2, 3, more
- Which holiday do you like best? Halloween, Thanksgiving, April Fool's day
- What do you like to receive for presents? Books, toys, money, clothes
- What do you like best to write with? Pencil, crayon, marker, chalk
- What color is your hair? Brown, blonde, black
- What color are your eyes? Green, blue, brown

C. Yes or No Graph

- Do you have . . .

A pet (could list any animal), own bedroom, blue eyes, a van, a two-wheel bike, a cowboy hat, any brothers, any sisters, hair longer than your shoulder (shorter than shoulders), any brothers or sisters in this school (in preschool, in high school), a middle name, buckles on your shoes, a teddy bear, TV in you bedroom, a computer at home, etc.

- Do you like . . .

  Watermelon, broccoli, macaroni and cheese, oat meal, (could list any fruit or vegetables, or food), dogs (could list any animal), to watch sports, to read, etc.

- Have you ever . . .

  Been to Disneyland (list any popular place), been to a zoo, been to a circus, been to the ocean, a farm, gone fishing, ridden a horse, had chicken pox, had to wear a cast, taken dancing lessons, piano lessons, been on a plane, been on a beach, ridden a train, had to stay over night in the hospital, ridden a buggy pulled by a horse, baked cookies, mailed a letter, went to a different school, played the game "Sorry" (could list any game), etc.

- Do you enjoy . . .

  Riding a bike, playing ball (list any sport), going to school, etc.

- Can you . . .

  Ride a two-wheel bike, do flips, jump off the diving board, skip a rope, do magic tricks, walk to school by yourself, etc.

- Did you sleep well last night?
- Did you brush your teeth today?

D. Favorites

Holiday, season, pizza, sport fruit, vegetable, meat, dessert, movie, cookie, pie, juice, cereal, book, TV show, cartoon, super hero, center, dinosaur, game, ice cream flavor, story character, music, pet, toothpaste, transportation, etc. (When you are doing favorites, narrow it down to three choices and then make a class graph.)

E. Seasonal

- Do you have a real or artificial tree?
- Do you have a wreath on your door?
- Do you have Christmas lights outside your house?
- Have you hung up a stocking?

- Did you make a resolution for the New Year?
- Are you wearing green today?
- Do you have turkey for Thanksgiving?
- Do you eat dinner at home or away on Thanksgiving?
- What did you wear for Halloween?
- What type of Halloween candy do you like?
- Does your jacket have a hood?
- What do you wear to keep your hands warm? Mittens-gloves

F. Miscellaneous/Numbers

- Month you were born in.
- Number of bedrooms in your house
- Number of brothers and sisters
- Number of letters in your first name
- Number of pets at home
- Number of pockets on your clothing
- Number of teeth lost
- Shirt: pattern or solid color
- Type of clothing worn that day: shorts, pants, t-shirt, sweater, vest, etc.
- Types of job they would like to have when they grow up

Assessment Suggestions

- The daily questions about the daily graph would be asked and discussed. Sharing recordings and discussing the daily graph allows students to formulate their thoughts using appropriate vocabulary, and to clarify and extend their understanding. This enables the teacher to assess what they know and can apply, where they are in the process of learning, and what they still need.
- Assessment for the daily graphing could also come from the various extensions done in class. For example, the teacher might assess a student's journal writing on the daily graph, or assess how a child might transfer information from the class graph onto an individual graph.
- Using key questions gives the teacher the opportunity to observe and evaluate the students understanding.

Curriculum Extension/Adaptations/ Integration

- Although your class will have many worthwhile and enjoyable experiences graphing the above ideas, the most valuable graphs will be those which evolve spontaneously. For example: A scissor graph showing scissors that cut well and a pair that doesn't cut well might evolve during an art lesson. A glue graph may also evolve during art showing glues that are working well and those that are plugged or not working well.
- Use the above ideas as catalysts for other ideas. As you try these activities, ask yourself, "how else might I use this idea? What other question could I ask in order to generate a similar graph? How else could I organize this information?"
- Instead of using their boxes the students could draw their own pictures. How did you get to school? (They would draw a bus, feet, or car on the bar graph.)
- Visual objects could be used on the graph:
  1. Two to three video movie boxes have the students graph their favorite movie.
  2. Provide two to three cookies and have the students graph their favorite one.
  3. Provide two to three different juice cans and have the students graph their favorite.
  4. Provide two to three different kinds of cereal and have the students graph their favorite.

     Other materials the students could use daily in their graphing:

     A. If your graphing space is a dry erase board the students could have their name or picture laminated and a magnet backing could be put on each picture, or they could write their name on the dry erase board under the category graphed.

     B. You could have a graph taped on the floor in your classroom and they could graph real objects. "Are you wearing boots or shoes? (They would each take off a shoe and put it on the graph.) Are the soles of your shoes smooth or bumpy" (Once again they would take off a shoe and put it on the graph.)

     C. The graph could be a heavy cardboard and the children could use clothes pins with their name on. They would graph by clipping the clothes pin on the cardboard (In

order to use this you would only be using a two group graph).

D. For yes and no questions you could have the words written in large block form and the students could write their name inside the letters in the words.

E. The students could also use links. A hook is at the bottom of the graph and the first student hooks their link on the hook and the others link theirs on the link.

Family Connections

- Send home a grid of a graph. The student could graph windows, doors, etc., and discuss their findings with their family. They could then bring back the home connection graph and explain their findings to the class or compare their findings with other student findings.
- Following class units you could send home a graph the family could graph together. For example, after studying the four seasons you could send home a graph, with the question: what is your favorite season? This also serves as a wonderful assessment of student understanding.

Additional Resources

Books

Navigating through Data Analysis and Probability in Pre-kindergarten-Grade 2,

National Council of Teachers of Mathematics, NCTM (Edited by Carole E. Greenes), ISBN 0:87353-520-0

Mathematics Their Way, by Mary Baratta-Lorton; ISBN 020186150X

Lessons for Little Ones Mathematics Cooperative Learning Lessons, by Lorna Curran in consultation with Dr.Spencer Kagan; ISBN I-879097-19-2

Mother Goose Math, by Deborah Scnecter; ISBN: 0-439-15584-3

Project Criss (Creating Independence through Student-owned Strategies), by Carol M. Santa H.D., Lynn T. Havens, Evelyn M. Maycumber; ISBN 0-7872-1121-4

Picturing Math, by Carol Otis Hurst and Rebe Otis; ISBN 0-02-6873

Children Books

Anno's Flea Market, by Mitsumasa Anno; ISBN 0-399-21031-8

Everybody Needs a Rock, by Byrd Baylor; ISBN 0-684-13899-9

Guess Who My Favorite Person Is, by Byrd Baylor; ISBN0-684-19514-3

Hannah's Collections, by Marthe Jocelyn; ISBN 0-88776-690-0

Just Graph It! By CTP Creative Teaching Press; ISBN 1-5747-375-2

Charts and Graphs, by Wendy Clemson and David Clemson; ISBN 1-58728-342-5

Tiger Math, by Ann Whitehead Nagda and Cindy Bickel; ISBN 0-8050-6248-3

Web-Sites

http://marcies-lessons-link.com

http://www.geocities.com/crfgoudie/graphing.html

Just Graph It!

Math Standard III

Objective 3

Connections

Standard III:

Students will understand basic geometry and measurement concepts as well as collect and organize data.

Objective 3:

Collect and organize simple data.

Intended Learning Outcomes:

1. Demonstrate a positive learning attitude
5. Understand and use basic concepts and skills
6. Communicate clearly in oral, artistic, written, and nonverbal form.

Content Connections:

Math, I & II; number concepts & relationships
Language Arts, I, IV, VI, VII; oral language, concept of print, fluency, vocabulary.

Background Information

Graphing is a problem-solving tool used to help young children see relationships.

Graphs are not only valuable instruments for communicating data quickly and simply, but they can be tools for stimulating discussion, and aid in promoting mathematical thinking. Graphing activities for kindergarten students should include more than fixed displays of information. A hands-on, relevant lesson can be a successful way of teaching concepts which students are more likely to retain.

Learning should be supported with manipulatives. Manipulative materials help make abstract mathematical ideas concrete. They give children the chance to grab onto mathematical ideas, turn them around, and view them in different ways. Manipulative materials can serve in several ways to introduce concepts, to pose problems and to use as tools to figure out solutions. When children have the opportunity to work in centers with manipulatives they are making math connections by discovering learning on their own.

Students should have a basic knowledge of the following before they start working independently in graphing centers.

- Counting up to ten objects
- Identifying the numerals 0 through 10
- Identifying colors
- Identifying some bars as taller, longer, or shorter than others
- Comparing two sets of objects to determine which has more (or fewer) objects or if both sets have the same number of objects.

Real graphs are the most important of these graphing experiences. They form the foundation of all graphing activities. In this kind of graph children compare groups of real objects such as M&M's or skittles.

Picture graphs use pictures or models to stand for real things. These graphs are more abstract than real graphs because a picture, even if it is drawn by the child, only represents reality. An image of an M&M is not the M&M itself.

Symbolic graphs use symbols to stand for real things. This is the most abstract level of graphing, because the symbols must be translated back into reality to have meaning. A colored square or an "X" on a piece of graph paper can only stand, abstractly, for a real M&M which the child has.

Research Basis

Friel, S. N., Curfcio, F.R., & Bright, G. W. (2001). Understanding Graphs. Making sense of graphs: critical factors influencing comprehension and instructional implications. ***Journal for research in mathematics education***, 32(2), 124-158. Retrieved November 26, 2006, from http://mathform.org/mathtools/research/03MarchSummary.html.

The Authors have done an extensive search of the research on understanding graphs. Graph comprehension involves "the abilities of graph readers to derive meaning from graphs created by others and themselves." Graph sense "develops gradually as the result of one's creating graphs and using already designed graphs in a variety of problem contests that require making sense of data."

"Number sense and symbol sense can be considered as representing certain ways of thinking rather than as bodies of knowledge that can be transmitted to others. A similar approach seems to be a profitable way to think about graph sense. Graph sense develops gradually as a result of one's creating graphs and using already designed graphs in a variety of problem contexts that require making sense of data."

Lilian, K. (1987), another look at what young children should be learning? *Eric Digest*. Retrieved December 29, 2006, from http://www.ericdigest.org/2000-l/look.html

The data on children's learning suggest that preschool and kindergarten experiences require an intellectually-oriented approach in which children interact in small groups as they work together on projects that help them make increasing sense of their own experience.

Invitation to Learn

Teacher will do a graphing activity called "Sit and Be Counted." The students will gather data about their birthdays for a bar graph, and

then form the graph by sitting in rows. A clear, large floor space will be needed. Tape a line about 24 feet long onto the floor (In good weather, this activity could be done outside, making the line with chalk). On a piece of construction paper, label the line MONTHS OF THE YEAR, and place construction paper labels for the 12 months at equal intervals along the line.

The students will sit cross-legged on the floor behind the month in which they were born. The students will be asked to take places on the floor behind the card that indicates the month in which they were born. Make sure the children with the same birth month sit one behind the other in a row. Call children up month by month. Have the children look around at one another and describe what they see. Explain to them that together they are a people graph that shows data on class birthdays.

Questions that could be asked:

- Which month has the most birthdays?
- How does our people graph show this?
- How can you find two months with the same number of birthdays in them?
- What would you look for?
- How can you recognize a month where there are no birthdays?
- How many children were born in months that start with J? With M?

You could also try other people graphs, by gathering birthday data for questions like these:

- In which season does your birthday fall?
- How many birthdays fall on odd-numbered days?
- On even-numbered days?
- Were you born in this community?
- Were you born in another community?
- Were you born in another state?
- Were you born in another country?
- How can we shoe this information on paper?

A photograph could be taken of the people graph and it could be displayed on a bulletin board with other bar graphs.

Center #1 Bug Hunt Graphs

1. Have a large Tupperware bowl full of sand. There will be three kinds of bugs buried in the bowl. There will be striped bugs, spotted bugs, and bugs with wings.
2. Bright colored shovels with bug handles will be provided in the center.
3. The students will dig in the sand searching for 10 bugs each. They will put their bugs on the bug graph provided.
4. As they take the bug off their graph they will color in the graph square, making a symbolic graph.
5. The bugs will then be re-buried in the sand
6. They will ask each other questions concerning their graphs.
7. Foam art pieces will be provided for the students to design their own bug. They will each make a bug with stripes, or spots, or wings. Eyes, markers, material for wings, antennas, etc. will be available as they design their bug.
8. Magnets will be provided for the students to put on the back of their bug. They will then take their bug and graph it on the large metal class graph.

Materials

- ❑ Bowl full of sand.
- ❑ Plastic bugs
- ❑ Small garden shovels
- ❑ *Bug Graph*
- ❑ Colored foam
- ❑ Peel off magnets
- ❑ Markers
- ❑ Wiggly eyes
- ❑ Bug wings
- ❑ Pipe cleaners
- ❑ Magnetic dry-erase board
- ❑ Colored pencils or crayons

Center # 2 "Zoorific" Graph

1. Each student in the center will take a different colored picture with zoo animals. (Each colored zoo picture has a different number of animals so each students graph will be different.)
2. The students will count the animals and then graph the data learned on a graph that has the pictures of the animals. They will graph this information by coloring and cutting out the number of animals needed.
3. They will then take the cut-out animals and glue them on the "Zoorific Graph" and record the correct number under the appropriate graph column.
4. The students will compare their graph with the other graphs in their center by discussing what animal has the most, the least or the same.
5. They will then draw their own zoo picture and graph their animals on the graph below their own picture.
6. When the class gathers back together, the students in this center will share their personal graphs with the class.

Materials

- ❑ *Zoo Picture Graph Worksheet 1*
- ❑ *Zoo Picture Graph Worksheet 2*
- ❑ *Zoo Picture Graph Worksheet 3*
- ❑ *Zoo Picture Graph Worksheet 4*
- ❑ *Zoo Picture Graph Worksheet 5*
- ❑ *Zoo Picture Graph Worksheet 6*
- ❑ *Animal pictures picture for zoo picture graph*
- ❑ Scissors
- ❑ Glue sticks
- ❑ *Blank Zoo Picture Graph Worksheet*

Materials

- ❑ *Sticker Graph*
- ❑ Sheets of six different kinds of stickers
- ❑ A wooden number cube with the six different stickers (each person in the center will need a number cube)
- ❑ Pencil

Center #3: Sticker Graph

1. The students will each take a sticker graph and sheets with six different stickers.
2. They will each take a wooden number cube that has one of the different kinds of stickers on each side of the number cube.
3. The students will then roll the number cube. They will peel off the sticker that is shown on the number cube and put it on the sticker graph.
4. When one roll of stickers is full they will stop.
5. At the bottom of each column they will write the number of stickers.
6. The students will then do it a second time with a different graph. They will then compare their two different graphs. They can ask themselves questions like: Which graph has the most stars? Which graph has the most circles? Which shapes have the same amount on each graph?

Materials

- ❑ *Create your Own Picture*
- ❑ Pencils
- ❑ *Model sentences*

Center #4: Create Your Own Problem By Graphing The Room

1. The students will take a walk around the room and decide upon three different things they would like to graph. As they walk around the room they will think: What will I count? Where will I look? Examples are doors, windows, cupboards, tables, chairs, computers, etc.
2. Students will then come back to the table and draw their three items they have chosen at the bottom of their Create Your Own Problem graph.
3. Students will then walk around the room with their graph and record the data of their findings. They will record the data ,making a symbolic graph, by coloring in a graph section for each item they found of their three things they chose to graph.
4. Students could do it a second time choosing three different items to graph.
5. The students then write some sentences about their graph. We practice making statements orally about our daily graphs each morning and afternoon. These are the model sentences that are on a chart in the classroom: There are more ____ than ____. There are ____fewer ____ than ____. There are an equal number of ____ and ____ etc.

6. You might want a student teacher, aid, or a parent to be available in this center to help them with their sentences for those that are not ready to do this kind of activity on their own. However, many can do a lot of sound spelling after the first of the year. Therefore, encourage them to write as much as they can.

Center #5: Manipulative Graphing

1. The center has six or seven yogurt cups holding small collections of manipulatives to graph – plastic animals, pattern blocks, buttons, plastic fruit, colored pasta, etc. Each student will choose a yogurt cup.
2. The students will take one of the large four column blank graphs. (I made six of these so that six students can work at once). On the top is a line for the question or title. On the bottom of each column are lines to write the choices. Numbers go up the left side. I laminated these so students can use a dry-erase marker to label the graph.
3. The students take the manipulative in their yogurt cup and place the items on the real graph.
4. To be used with this center I made an identical graph on 8 1/2 x 11 paper and ran off lots of these, storing them in a ziploc bag. The students each take one of these graphs and make a simple bar graph by coloring in one section to represent each item on the real graph. They write their title and label the choices on this graph.

Materials

- ❏ Yogurt cups
- ❏ Collections of manipulatives to graph
- ❏ Large laminated four column blank graph work mat/Manipulative graph
- ❏ 8 1/2 x 11 four column blank graph identical to the large graph/ *Manipulative Graph*
- ❏ Gallon zip lock bags
- ❏ Pencils

Center #6: Graphing With Bears

1. The students will take a *Gummy Bear Sorting Worksheet*. Each section will be labeled a different color. They will color each bear section the color indicated.
2. The students will then take a plastic bag with gummy bears. (Make sure to give your expectations of only touching and eating the gummy bears when given instructions to do so.
3. The students will sort the bears by placing them on the correct color of the sheet.
4. The students will then take a *Gummy Bear Graph* worksheet. They will color the bears in each column the colors they used on their "Gummy Bear Sorting" worksheet.
5. They will use the information they found out on their sorting worksheet and graph that data on the *Gummy Bear Graph*

Materials

- ❏ *Gummy Bear Sorting*
- ❏ Colored pencils or crayons
- ❏ Sandwich bag with 15 gummy bears
- ❏ *Gummy Bear Graph*
- ❏ Bear stamps
- ❏ Colored stamp pads
- ❏ *Bear Patterns to trace*
- ❏ Colored construction paper
- ❏ Scissors
- ❏ Class bar graph

worksheet. They will use the bear stamps to stamp the correct number of each color of gummy bears. Then allow the students to eat the gummy bears.

6. The student will then take the same color of construction paper that they choose for their gummy bear. They will trace a bear pattern on their colored construction paper and cut it out.
7. They will then take their paper bear and tape it on the laminated class bar graph.

Assessment Suggestions

- Teacher observation is the best assessment for these graphing activities. Walk around with a clipboard and post-it notes to make quick notes of which students need special help, or use the class notes recording form attached in the Appendix. The following questions can be used to assess student learning.
  1. Which column has the least?
  2. Which column has the most?
  3. Are there more _____ or more_____?
  4. Are there less _____ or less _____?
  5. How many _____ are there?
  6. How many more _____are there than _____?
  7. How many less _____ are there than _____?
  8. How many _____ are there altogether?
  9. Are any columns the same?
  10. Which row is the longest or tallest?
  11. Which row is the shortest?
  12. Are any rows the same?
- Circulate among the students to ensure they are graphing their own data showing their individual information. Observe their understanding of graphing as they work in each of the graphing centers.
- Observe the students and listen to the interaction and conversations as they make decisions, organize manipulative and solve problems during the graphing centers.
- The written graph and sentences are also good assessment tools, as you see the growth of their oral language.

Curriculum Extensions/Adaptations/ Integration

- Teachers can add thematic manipulatives to the graphing centers to correlate with their current theme. For example, you could use colored candy hearts for the graph instead of gummy bears, dig up dinosaur bones for the dinosaur unit instead of bugs, have a winter nature picture instead of the zoo animal picture, or you could take a walk outside to choose things to graph instead of the walk in the room.
- For the more advanced learner, he/she could use journals to record all their data information.
- You could have a graphing magnet center. You could have yogurt cups of small object magnets and on a small metal sheet they could graph their three different kinds of magnets.
- For the more advanced students you might give them a graphing game called, "Graphing Logically." Two players chart their moves on a grid to determine the winner. A game board will be drawn on one side of a poster board, using markers and a ruler. Two students play this game at a time. To start the game, each player will need a bag of pennies (about 15 pennies in each bag). The players will determine who will use heads of the penny and who will use the tail of the penny. The students will need to know the rows and the columns on a graph. They will each take turns rolling two number cubes. When they roll the number cube they place a penny on the correct dot on the graph to show the outcome. For example: 6 and 3 could be row 3 and column 6 or row 6 and column 3. The first player to cover all dots in any vertical, horizontal, or diagonal row wins the game. The students must use logic to determine which of two possible moves will best increase their chances of completing a row.

Materials

- ❑ Poster board game board
- ❑ Two sandwich bags of 15 pennies
- ❑ A pair of number cubes

Family Connections

Prepare a Take-Home Backpack, which has a graph template in it. The students will find three things to graph at home. They will then label the graph with a title and choices and color in their information. They will then bring it back and share with the class.

Materials

- ❑ A math take home bag
- ❑ *Math graph template*
- ❑ *Parent letter with explanation*

Additional Resources

Books

Brain Boosters, by Sidney Martin and Dana McMillan; ISBN 0-912107-43-X

Playing Math Game, by Anne Lewis and Francine Neugebauer; ISBN 1-56785-019-7

Big Book of Absolutely Everything, Edited by Rosemary Alexander; Instructors best

Science & Math Enrichment, by Elizabeth Stull and Carol Price; ISBN 0-87628-746-1

Transition Magician, Nola Larson, Mary Henthorne, and Barbara Plum; ISBN 0-934140-81-2

Mathematics & Cooperative Learning Lessons for Little Ones, by Lorna Curran in consultation with Dr. Spencer Kagan; ISBN 1-879097-19-2

The New Kindergarten, by Jean Marzollo; ISBN 0-06-091512-9

Mathematics Their Way, by Mary Baratta-Lorton; ISBN 020186150X

Hannah's Collections, by Marthe Jacelyn, ISBN 0-88776-690-0

Charts and Graphs, by Wend Clemson and David Clemson, ISBN 1-58728-342-5

Web Sites:

http://lessonplancomanion.com/

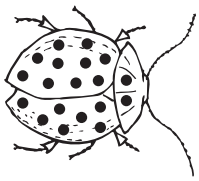
http://www.teachers.net/lessons

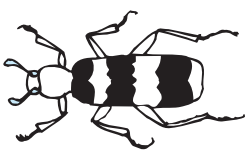
http://teacher.scholastic.com/

http://content.scholastic.com/

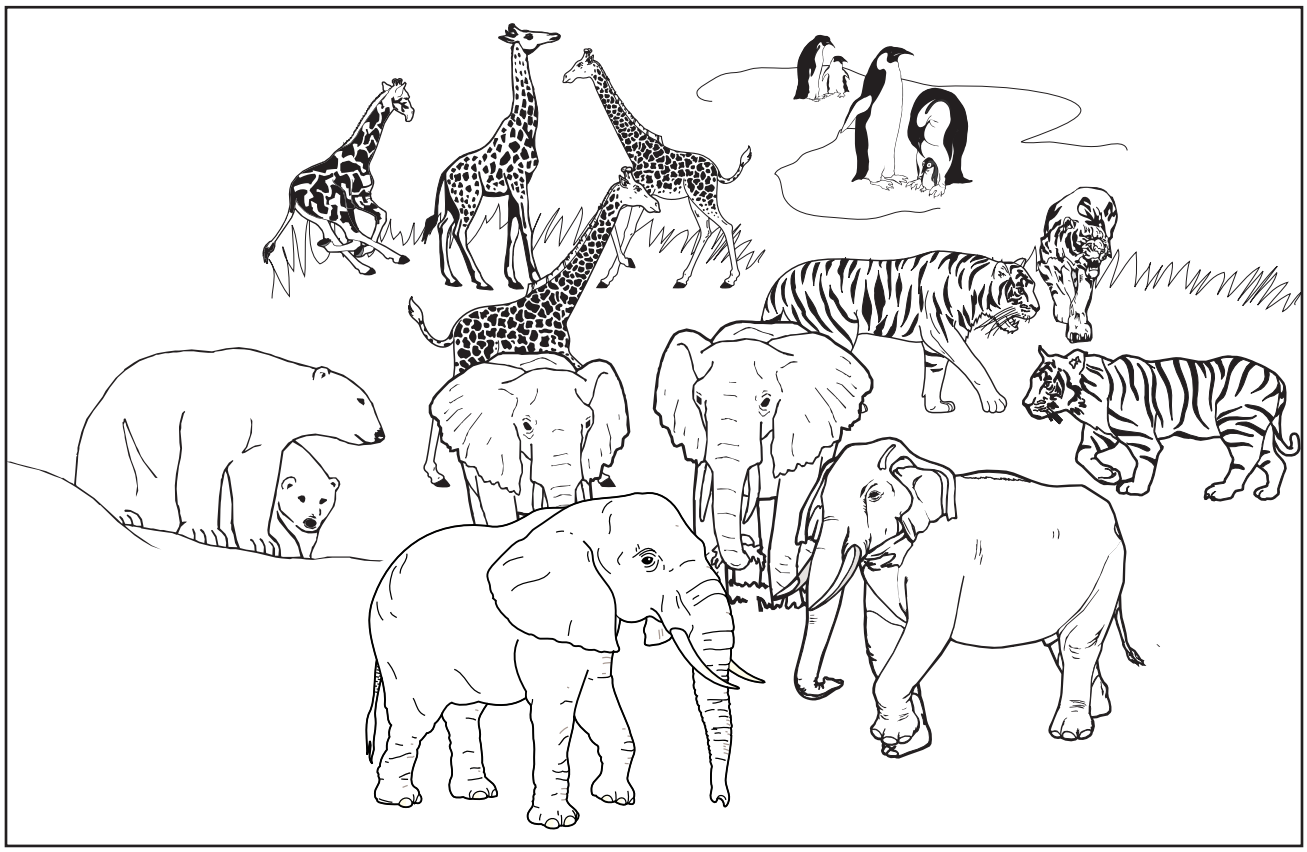
http://EdHelper.com

Bug Graph



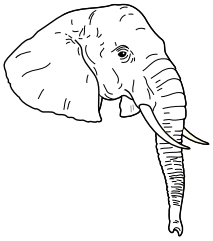


Zoo Picture Graph Worksheet 1



How many are in the picture?

_____



_____

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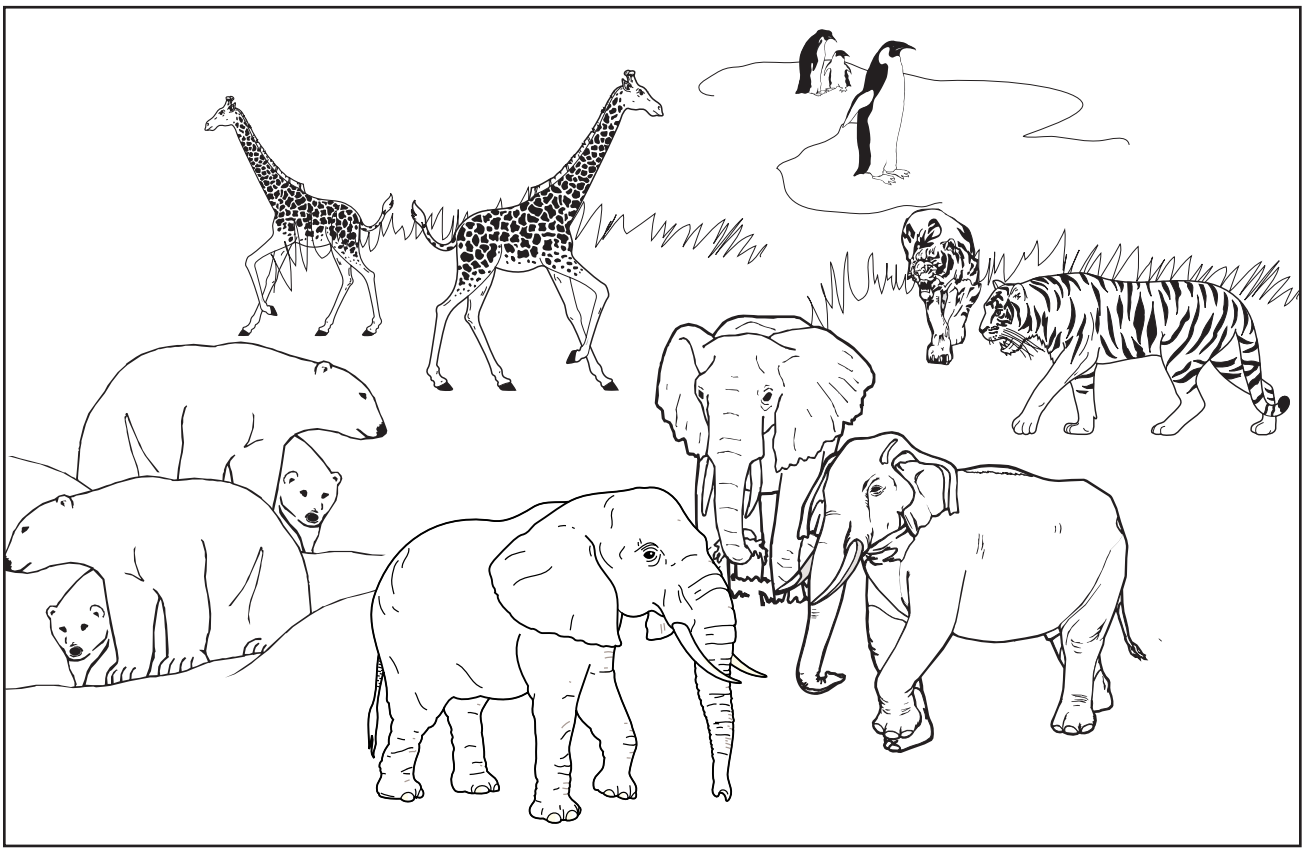
_____

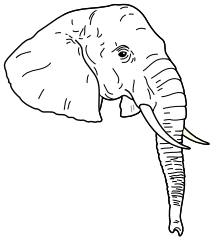
_____

Zoo Picture Graph Worksheet 2



How many are in the picture?

 _____

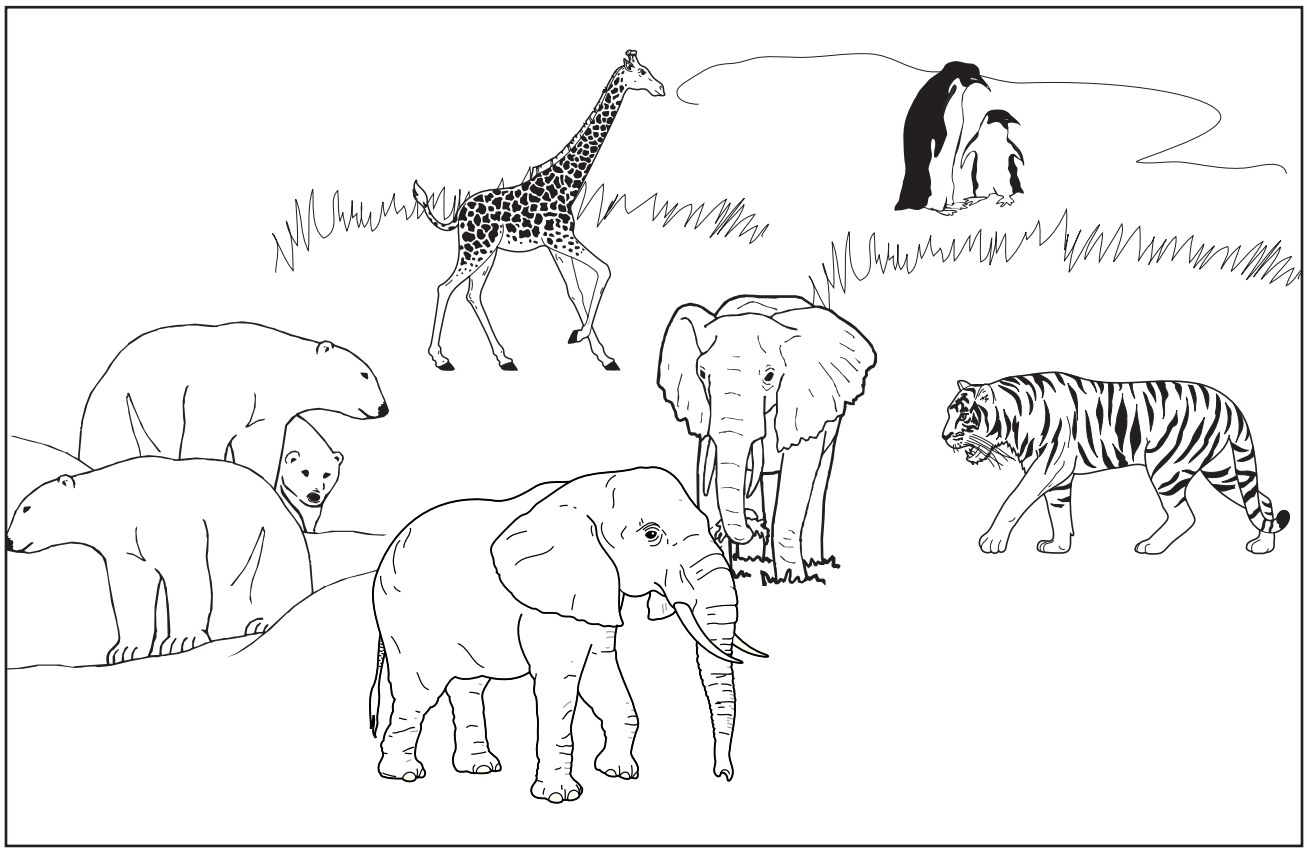
 _____

 _____

 _____

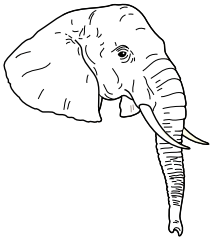
 _____

Zoo Picture Graph Worksheet 3



How many are in the picture?

 _____

 _____

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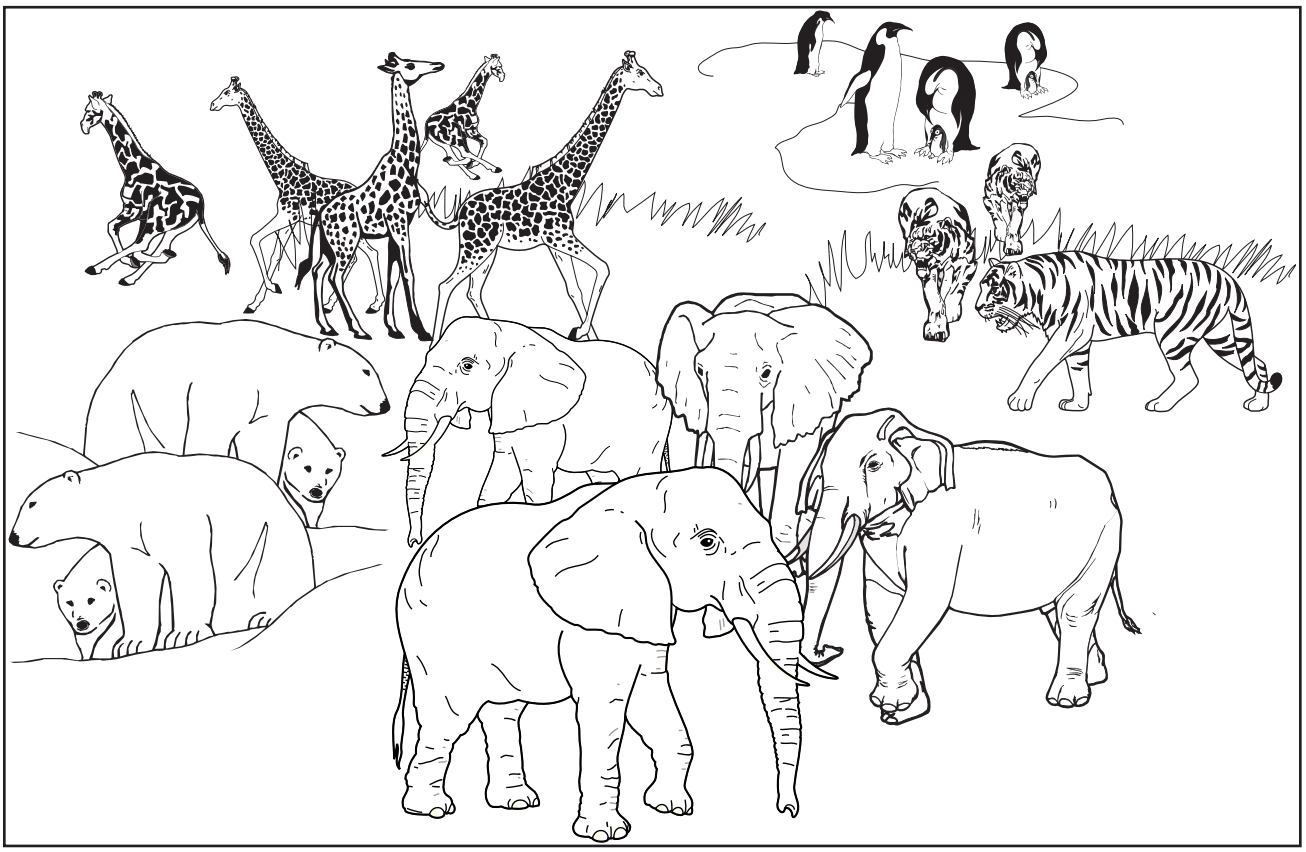
Zoo Picture Graph Worksheet 4



How many are in the picture?

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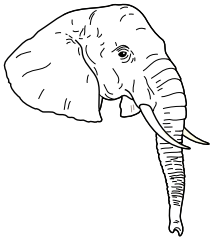

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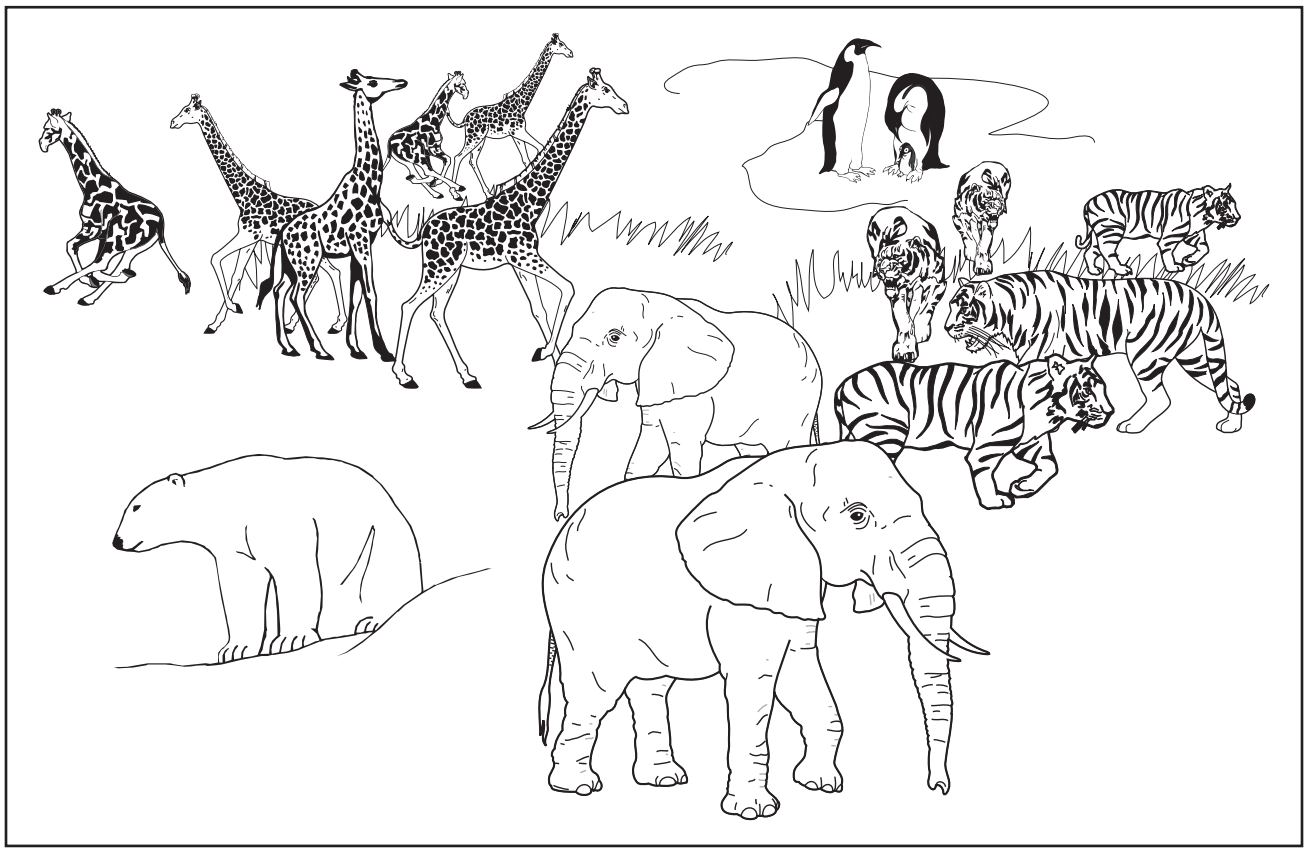
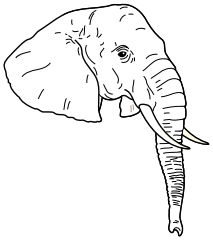
Zoo Picture Graph Worksheet 5



How many are in the picture?

_____



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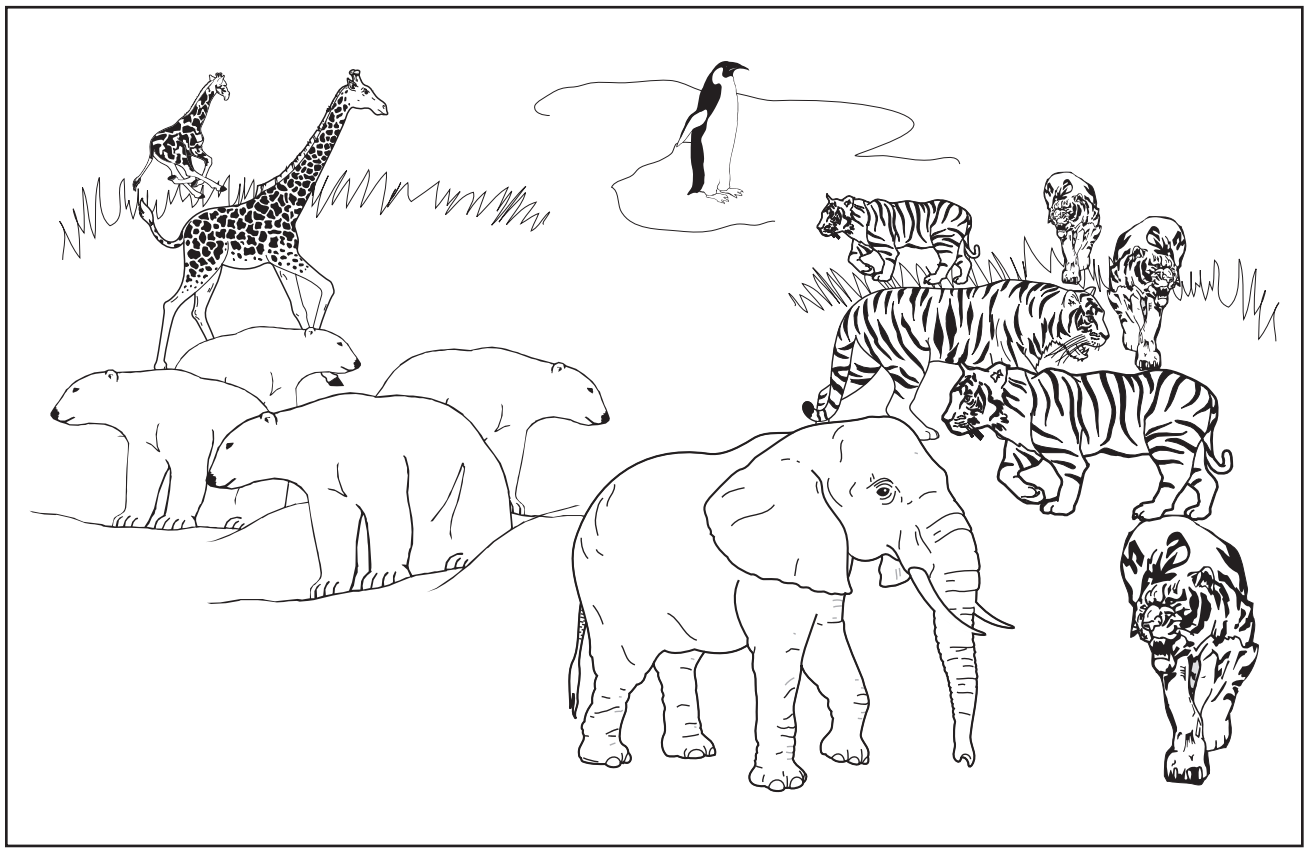
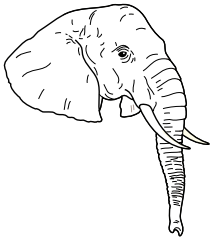
Zoo Picture Graph Worksheet 6



How many are in the picture?

 _____

 _____

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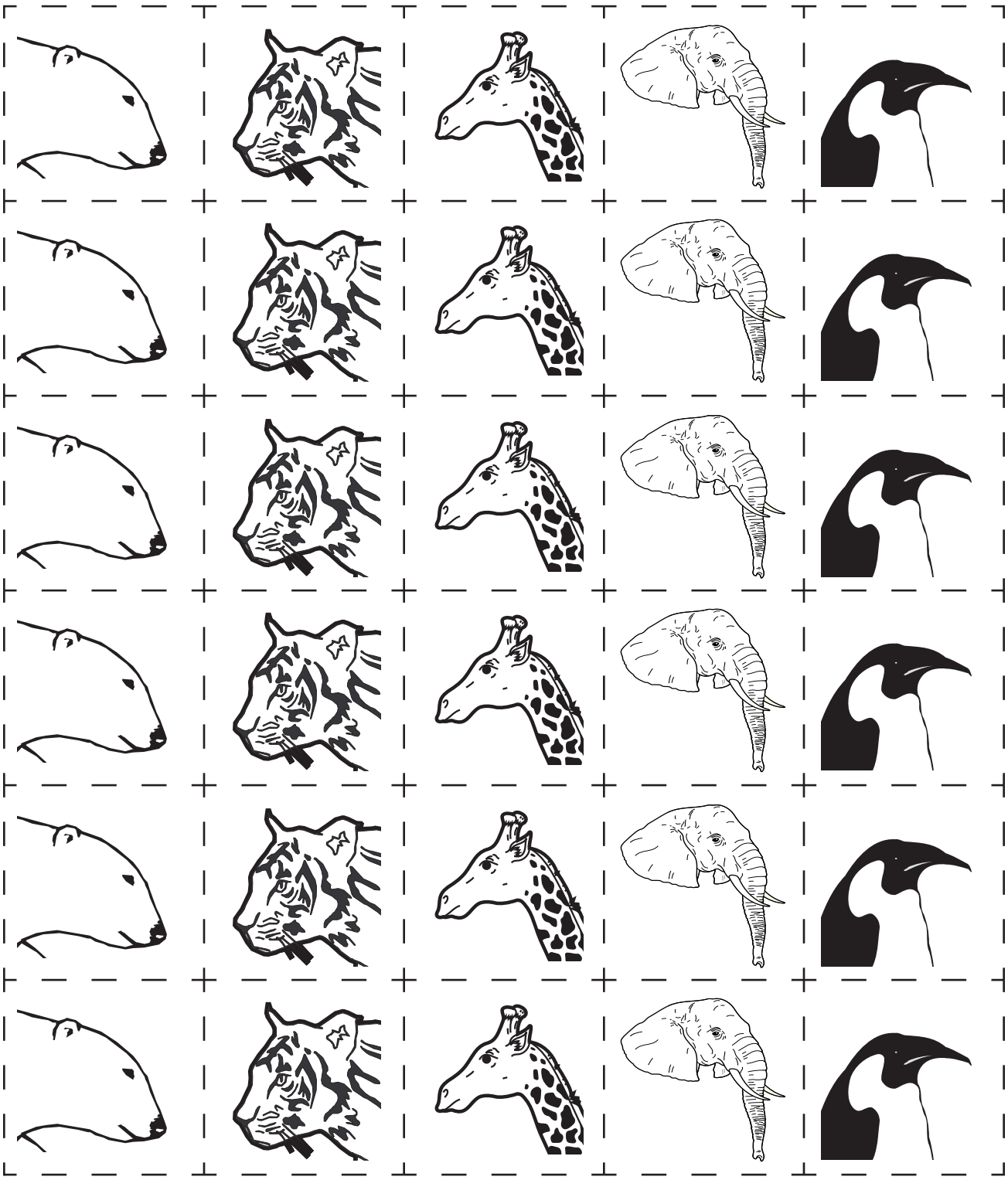
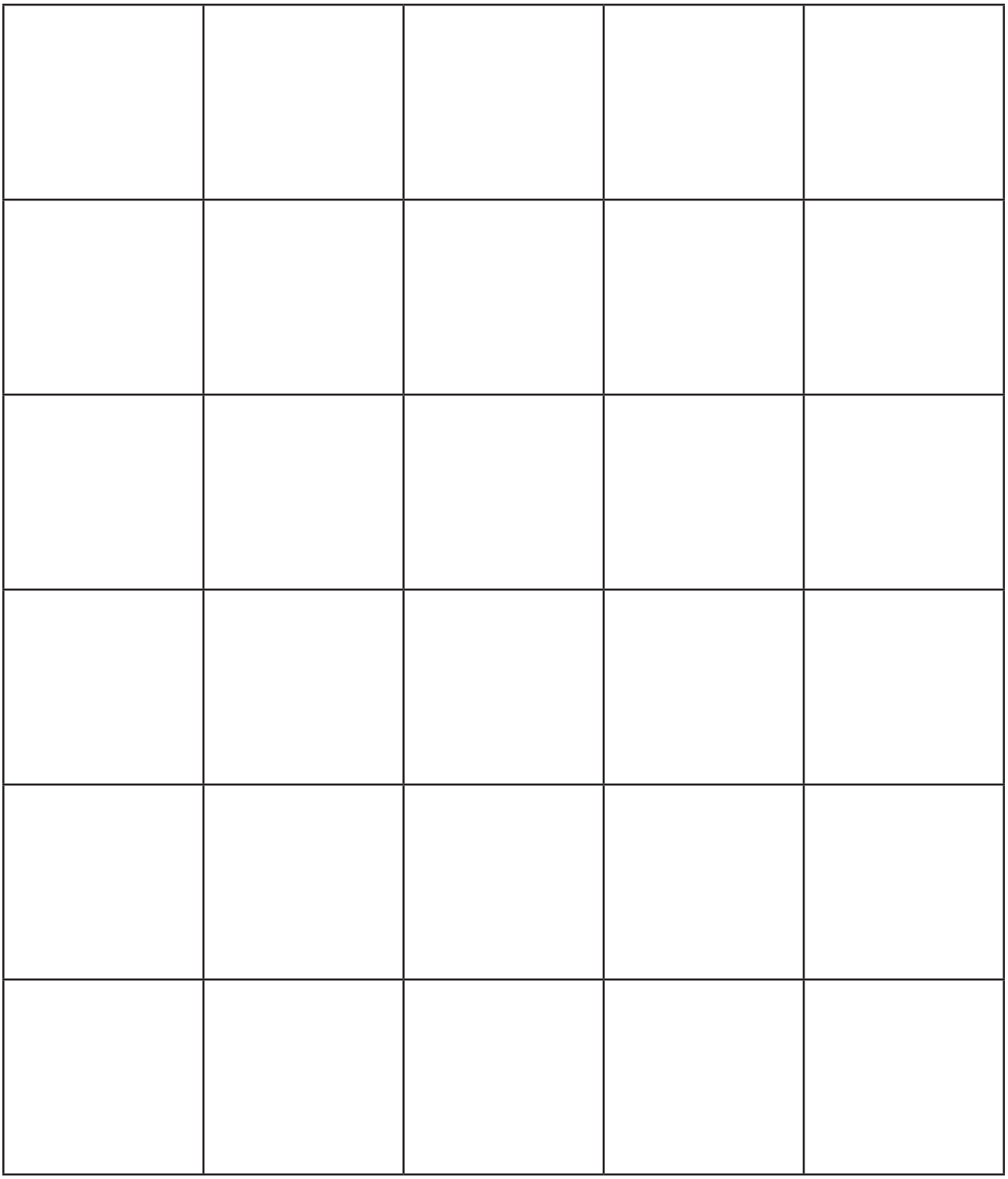
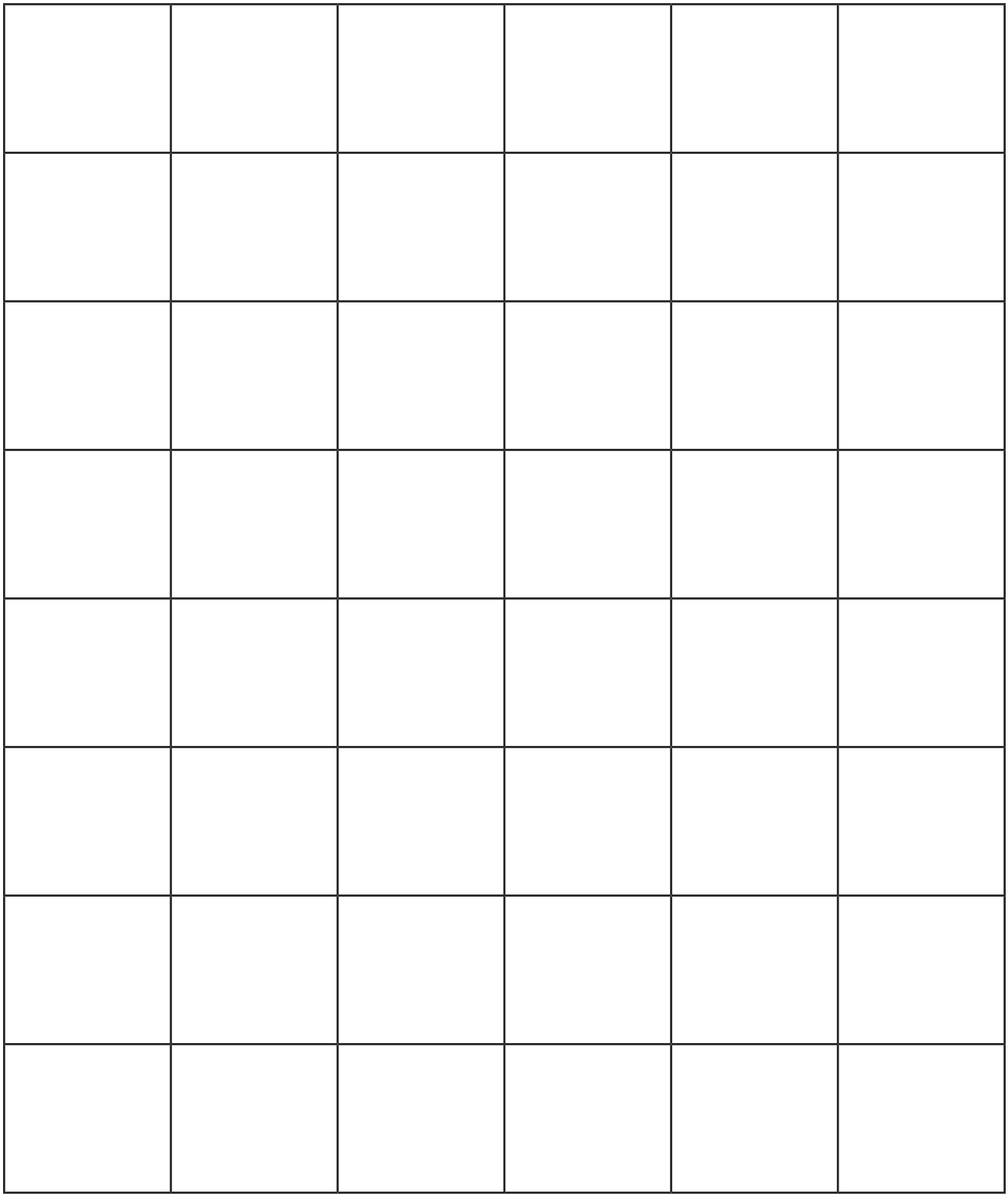
Zoo Picture Graph



Zoo Picture Graph Worksheet

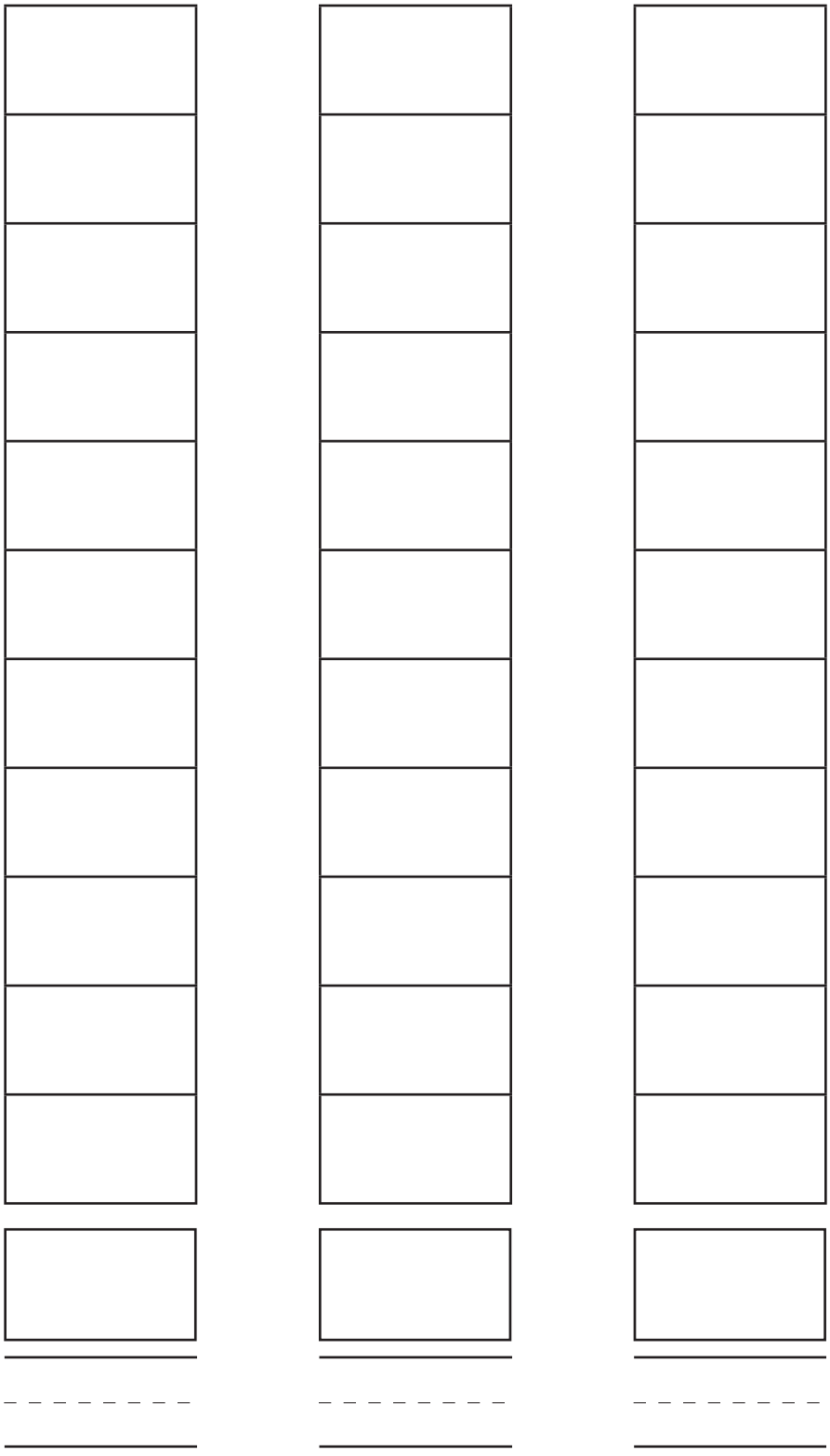


Sticker Graph



Create Your Own Picture Graph Worksheet

Use the graph to make up your own problems. Think: what will you count? Where will you look?



Manipulative Graph

Model Sentences

There are more _____

than _____.

There are an equal number of _____

and _____.

_____

There are more _____

than _____.

There are an equal number of _____

and _____.

_____

There are more _____

than _____.

There are an equal number of _____

and _____.

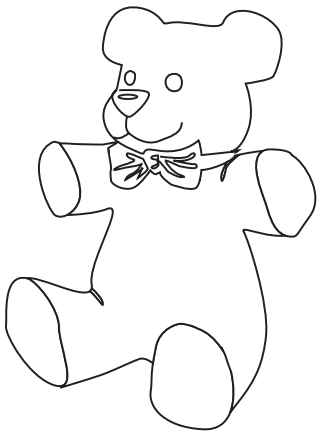
Gummy Bear Sorting Sheet

Red	Yellow
Green	**Orange**

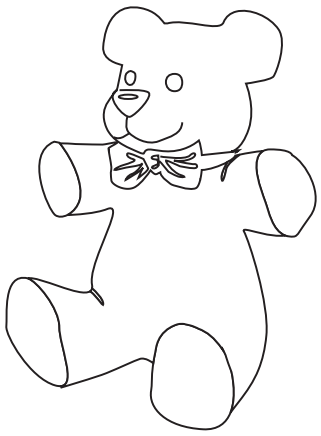
Name _____

Gummy Bear Graph Worksheet

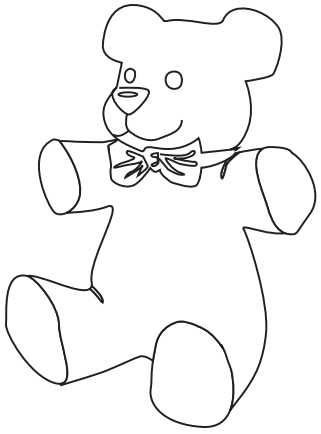
After sorting the gummy bears into the four colors, color the bears below to match.



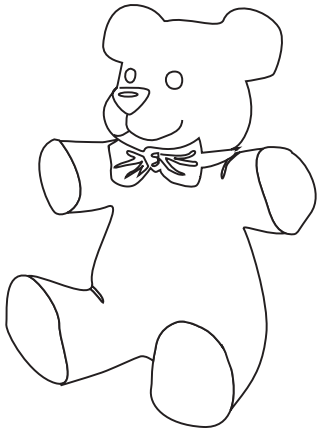
How many? _____



How many? _____



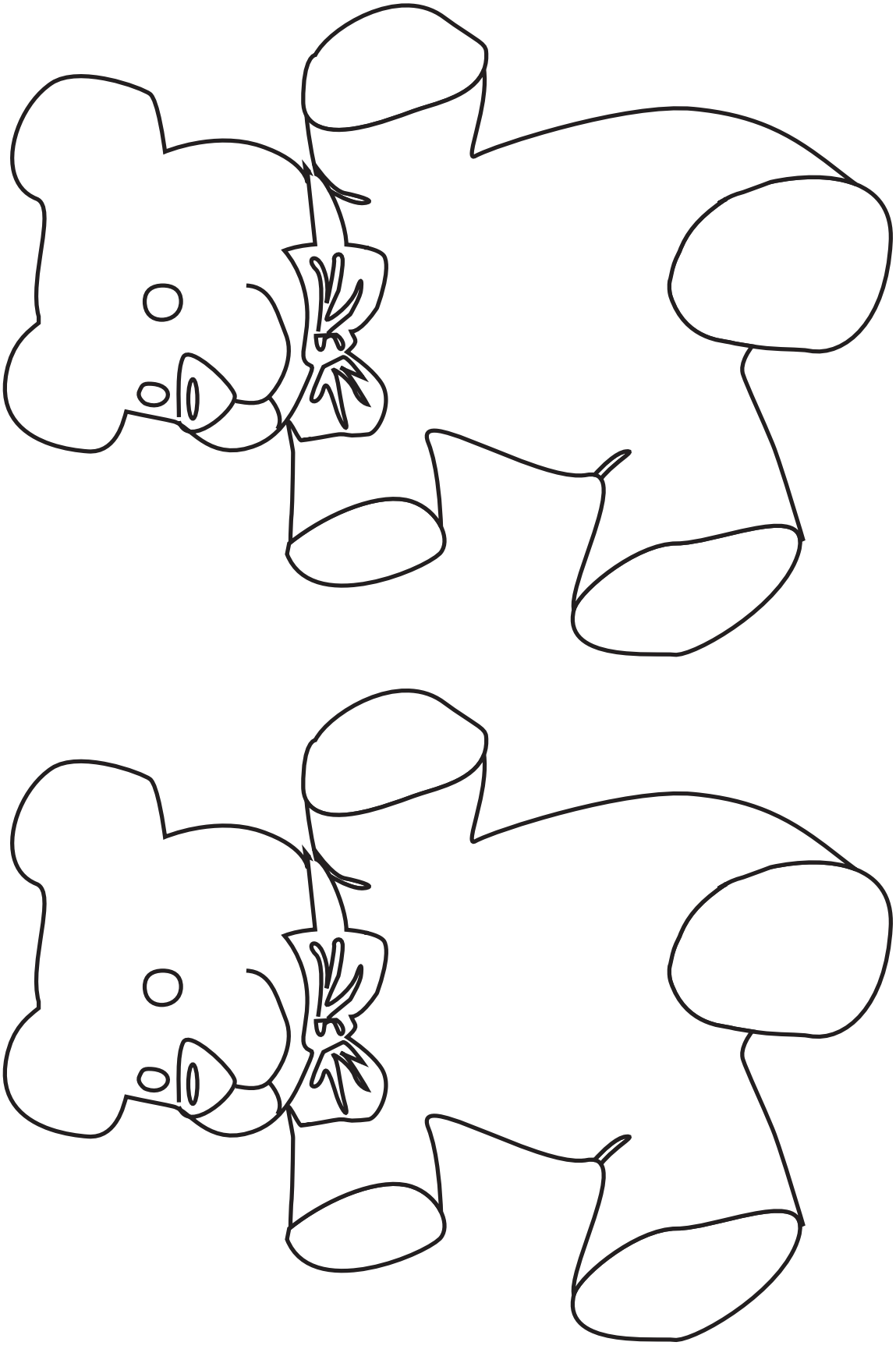
How many? _____



How many? _____

My favorite color is _____

Bear Pattern



Eatem Up

Standard III:

Students will understand basic geometry and measurement concepts as well as collect and organize data.

Objective 3:

Collect and organize simple data.

Intended Learning Outcomes:

1. Demonstrate a positive learning attitude
5. Understand and use basic concepts and skills
6. Communicate clearly in oral, artistic, written, and nonverbal form.

Content Connections:

Math, I & II; number concepts & relationships
Language Arts, I, II, VI, VII; oral language, concept of print, vocabulary
Content I & II; sense of self, family, & community

Math Standard III

Objective 3

Connections

Background Information

Gathering data is a frequent part of solving problems and satisfying curiosity. When we conduct surveys and draw conclusions from them, we are gathering and analyzing data. This includes a lot of work with graphs and leads to other mathematical tools.

Picture books can be sources of data when we collect information on the attributes of characters or other subjects in the book. In addition, picture books can lead to questions ripe for a survey. Many picture books inspire interest in new topics, where you choose something of interest and find out more. As you gather information you can look for ways that you can organize your information and compare it. You can also seize opportunities to tabulate findings, graph results, and otherwise manipulate the information you find.

Some of the most enjoyable experiences that a teacher can have with a young child are those that occur outdoors or in their familiar surroundings. Taking children on walks in the woods, at a local park, around the schoolyard, or simply around their school building can prompt many discoveries about the natural world. We usually think that these experiences are part of the childrens' scientific learning. However, direct observation is also an important piece of mathematical learning. One way of using observations to learn mathematics is through collecting data outdoors or in familiar surroundings. A data collection is a process in which children can make connections between mathematical concepts, in a variety of content areas, and the real world. When children become data collectors, they look for patterns and develop reasoning skills that allow them to draw

conclusions on the basis of information that they have not only collected, but also observed with their own eyes.

Research Basis

Eddy, M., (2007) children's literature in mathematics instruction. ***Children's literature in mathematics instruction***. Retrieved January 2, 2007, from http://falcon.jmu.edu/-ramseyil/mathpict.htm

Literature provides a way for children to make mathematic learning much more personal. Research has shown that children learn material best when it has meaning and usefulness for them. Literature is a way to give math meaning.

Whitin, D. J., (1992) Explore mathematics through children's literature. ***In school library journal,*** v38, n8, p24-28, August 1992. Retrieved January 2, 2007, from http://falcon.jmu.ed/ramseyil/mathpict.htm

Using math-related children's literature can help children realize the variety of situations in which people use mathematics for real purposes. The literature can help children see how math will be useful to them in the "real world."

Whitin, D. J., Gary, C., (1994), literature and mathematics in preschool and primary, the right connection. ***Young children***, v49, n2, p4-11, January 1994. Retrieved January 2, 2007, from http://falcon.jmu.ed/ramseyil/mathpict.htm

In this research article presents many different teachable moments that occur within the course of a regular day which are related to children's literature. Calendar time, birthdays, daily schedules, attendance and lunch count are all daily activities, which are overflowing with math concepts. There is a vast array of children's literature, which supports these areas of the children's day at school.

Whitin, D. J., (1993), dealing with data in democratic classrooms, ***Social studies and the young learner***, September/October 1993.

In democratic classrooms, children need to ask the questions and shape the direction of their investigations and need opportunities to interpret the data themselves.

Basile, C. G.,(1999). Collecting data outdoors: making connections to the world. ***Teaching children mathematics*** 6 no l t-12 S 1999.

Both the National Council of Teachers of Mathematics and the National Association for the Education of the Young Children call for young children to learn in realistic contexts and to study the world in which they live. Taking children outdoors gives the real experiences that they might not otherwise have had. The more we can integrate real-life activities into classroom learning, the more students will be able to recognize the importance of what they are learning.

Invitation to Learn

Read aloud *The Gingerbread Boy* by Paul Galdone (Clarion Books, 1979). After reading the book to the class, discuss how the old woman made the gingerbread boy with flour, water, and spices. Pass around spice containers of ground ginger, allspice, cinnamon, and cloves for students to sniff. Have the class name some mouth-watering adjectives to describe gingerbread.

Instructional Procedures

1. Bring out a freshly made gingerbread man that the teacher has made. Give them each a chance to smell one of the cookies as it is passed around. (Or you could buy gingerbread cookies and bring to the classroom.)
2. After all the students have had a chance to smell the gingerbread cookie have the class all go to their tables.
3. Pass out to each student a freshly teacher made gingerbread cookie, and tell them to take only ONE BITE out of it.
4. Together record the results of the gingerbread tasting on the large class ginger bread man cookie graph. Graph which part of the gingerbread cookie was eaten first—head, arm, foot, or body. Each student will come up and choose the paper cutout of the head, arm, foot, or body, and put on the graph representing the part that that student ate first. As the student comes up the teacher would ask him: What part did you bite first? Why did you choose that part?
5. Determine with the class which part was the most commonly eaten and the least commonly eaten. You might ask: what was the most popular part eaten first? What was the least popular part to be eaten first? Why do you think the results came out the way they did?
6. After discussing the class graph and each student has had a chance to graph, pass out a copy of the gingerbread man graphing record sheet. They will then all record the class results on their own individual graph recording sheet.
7. Finally allow children to enjoy the rest of the gingerbread cookies!
8. After the children have enjoyed the cookie have them gather on the rug again.

Materials

- ❑ *The Gingerbread Boy*
- ❑ *Character patterns I*
- ❑ *The Gingerbread Baby*
- ❑ *Character Patterns 2*
- ❑ Gingerbread Class Graph
- ❑ *Gingerbread individual graph*
- ❑ *Gingerbread Girl Pattern*
- ❑ *Gingerbread Boy Pattern*
- ❑ *Gingerbread Baby Story Song*
- ❑ Material to decorate gingerbread pattern
- ❑ Art materials
- ❑ Buttons
- ❑ Pom-poms
- ❑ Rickrack
- ❑ Fabric scraps
- ❑ Pasta
- ❑ Wide craft sticks
- ❑ Gingerbread chants
- ❑ Class graph templates
- ❑ Gingerbread cookies
- ❑ Spices

9. Read a newer version of *The Gingerbread Man, The Gingerbread Baby.*
10. Sing the song that goes with "The Gingerbread Baby."
11. After reading the story, draw a Venn-graph on the dry erase board. (Two circles—where they overlap, lists parts of the two stories that are the same.)
12. Identify the character in each story. Give out pictures identifying each character. Have the children graph their picture indicating if it is an animal, adult, or child. A graph can be made for each story and then compared. A large Venn could also be put on the floor and they could graph just the characters from each story.
13. Provide the children with a blank gingerbread boy or girl on brown construction paper. Allow students to color and cut out their gingerbread pattern, and then color and decorate it with a variety of art materials, including buttons, pom-poms, rickrack, fabric scraps, pasta, etc.
    a. These could be displayed on a bulletin board with a large paper gingerbread house with a tree next to it, displaying a gingerbread scene.
    b. They could also be made into a puppet, by gluing a wide craft stick to the back of each finished puppet. They then could be taught the following chant as an introduction to the senses:

Gingerbread boy	*Gingerbread girl*
***Looks** so neat!*	***Looks** so nice!*
Gingerbread boy	*Gingerbread girl*
***Smells** so sweet!*	***Smells** like spice!*
Gingerbread boy	*Gingerbread girl*
***Tasty** treat!*	***Tastes** so nice!*

    c. During the week several graphing activities could be done, using the children's gingerbread cutouts, for example: Boy or girl; one, two, or more buttons; hair or no hair; shoes or not shoes; etc. Have the children come up with their own graphing ideas.

Assessment Suggestions

- Each of the activities has a built-in assessment. When the students took a bite of their cookie and then graphed it, you

are evaluating their understanding of graphing under the right heading.

- As questions were asked about the graph a teacher can evaluate how well child can interpret a graph.
- When the children took the knowledge from the class graph of the gingerbread graph and made their own graph you could evaluate how they can take a pictorial graph and put it into a symbolic graph.
- When the children listened to the second story of the gingerbread man and made a Venn-graph a teacher evaluated how well the students can identify differences and classify them.
- When the children made their gingerbread man and formulated questions to be graphed a teacher is evaluating how well the students can form their own questions and shape their own investigations. The teacher can also evaluate how well the children can interpret the data themselves.

Curriculum Extensions/Adaptations/ Integration

During the unit of the gingerbread boy or man, have a class gingerbread doll in the class, and have it come up missing. Take the children on a walk outside around the school looking for the gingerbread boy or man. You could also explore the school using this as an introduction to parts of the building at the beginning of the year. Choose a picture for each character in the gingerbread man story. The pictures should be one color for children, one color for adults, and one color for animals. Reread the story and have the children hold up their picture when it is mentioned (it is okay if more than one child is for a character. You could also make a graph of the number of people and animals in the story.

Give the students a cutout of a gingerbread man. Give them several materials to color, and decorate their gingerbread man (e.g., button stickers, yarn, construction paper, graph paper, etc.). After they have all of their gingerbread men decorated, have them think of questions about each of their gingerbread men that we could find out data and graph it. (e.g., How many buttons, who has hair or no hair, who has clothes or no clothes, color of eyes, shoes or no shoes, etc.).

Have the students work in pairs or groups and make a life-size gingerbread man. Have them color and decorate it. They then generate questions like the above activity and graph.

Family Connections

- The students could take home a gingerbread cookie recipe and make cookies for their family.

Gingerbread Cookies

1 1/2 c. molasses
1 c. packed brown sugar
1 tsp. allspice
6 1/2 c. flour
2 tsp. ginger
1 tsp. cinnamon
2/3 c. cold water
1/3 c. shortening
1 tsp. cloves

Mix together molasses, brown sugar, water, and shortening. Add all their ingredients and cover for two hours. Heat oven to 350º F. on a floured surface, roll out dough until it is 1/4" thick. Cut out gingerbread men with cookie cutters and place them on a greased cookie sheet. Bake 10 minutes and cool. Decorate with frosting, raisins for eyes, and red cinnamon candies for buttons if desired.

- Send home a literature bag with a story of the gingerbread man. Have the family enjoy the story with the student.
- Send home a class gingerbread man journal along with a class gingerbread man. Have them keep the gingerbread man a few days. Have their family journal the adventures the gingerbread man went on with the student's family. They could draw pictures are take pictures for the journal. The journal will be read to the class and then sent home with a new child.

Additional Resources

Books

Thematic Units – Book 4 Stories, by Linda Fritz, Lori Hahm, and Debbie Trissel; Carson-Dellosa Publishing Company, Inc. Greeensboro, NC

Children Books

The Gingerbread Boy, by Paul Galdone; ISBN 0-89919-163-0

The Gingerbread Baby, by Jan Brett; ISBN 0-439-13745-4

The Gingerbread Boy, by David Cutts; ISBN 0-89375-100-6

The Gingerbread Man, by Eric A. Kimmel; ISBM 0-8234-1137-0

Gingerbread Man, by Karen Schmidt

Gingerbread Man, by Jim Aylesworth, Barbara McClintock; ISBN 0-348-47219-7

Gingerbread Man, by Catherine McCaffern

Gingerbread Boy, by Richard Egielski; ISBM 0-06-443708-6

Cajum Gingerbread Boy, by Berthe Amoss

Musubi Man: Hawaii's Gingerbread Man, by Sandi Takayama & Pat Hall; ISBM

Web Sites

http://www.kconnect.com/kc-integrated.html

http://www.dltk-kids.com/

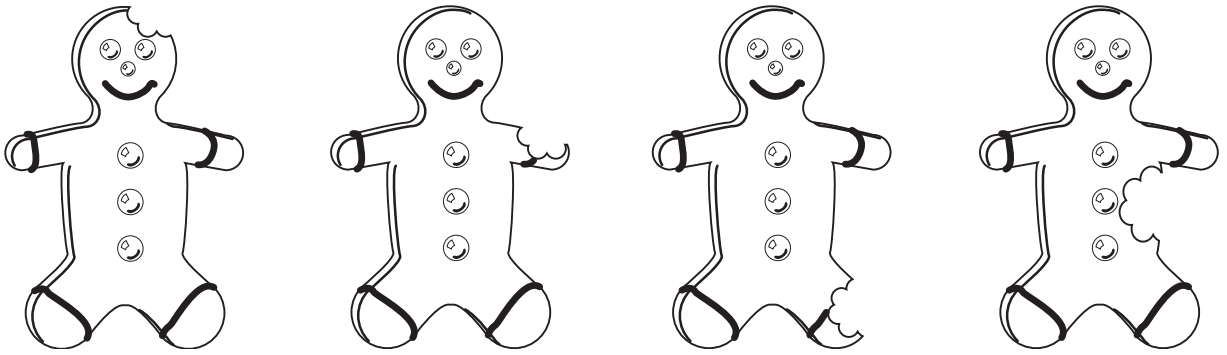
http://www.kidzone.ws/thematic/gingerbread/index.htm

http://www.teachers.net/lessons/posts/2098.html

http://lessonplancompanion.com/

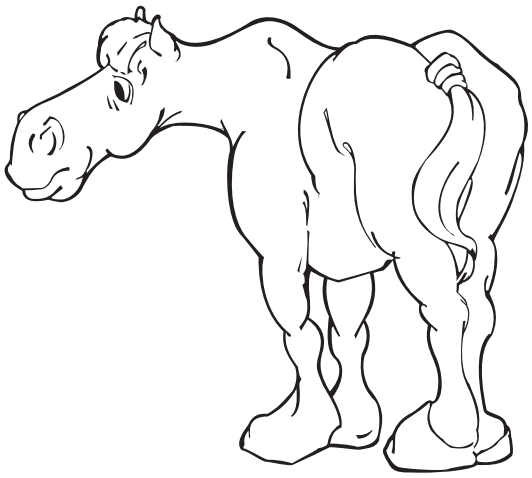
Gingerbread Individual Graph

(Graphing the pieces that were eaten first)



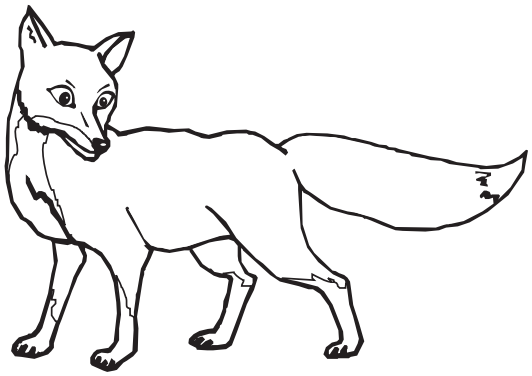
Head	Arm	Foot	Body

Character Patterns



Horse

Threshers

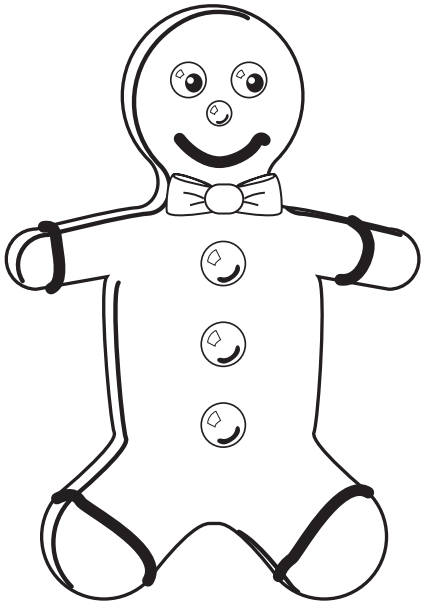


Fox

Character Patterns 2

Little Old Woman

Little Old Man



Gingerbread Boy

Cow

Characters from Gingerbread Baby

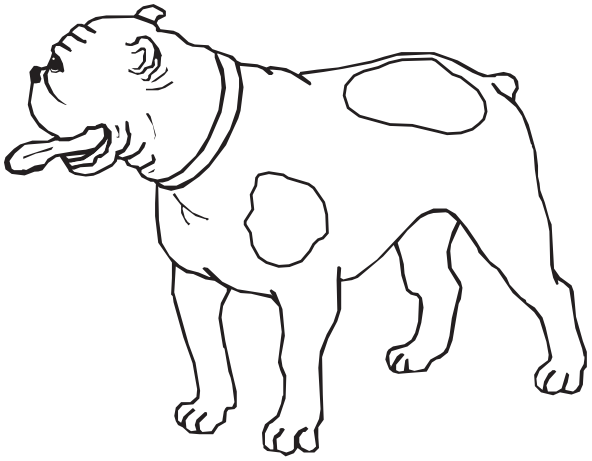
Matti

Matti's Mother

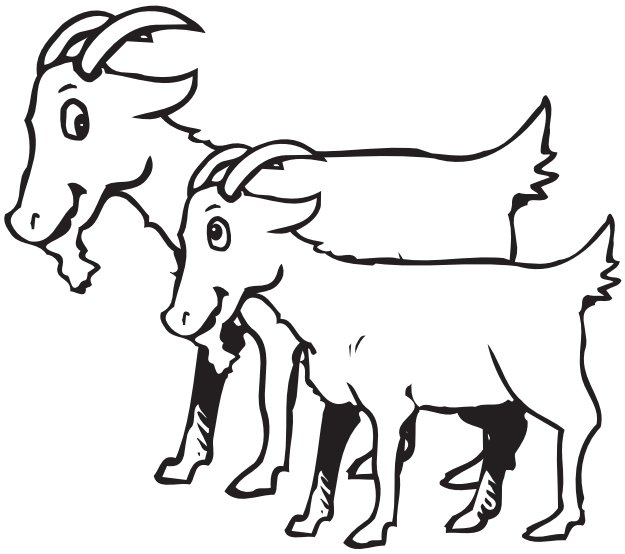
Matti's Father

Cat

Characters from Gingerbread Baby

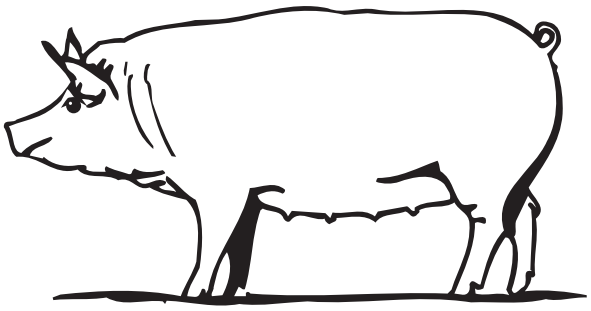


Dog



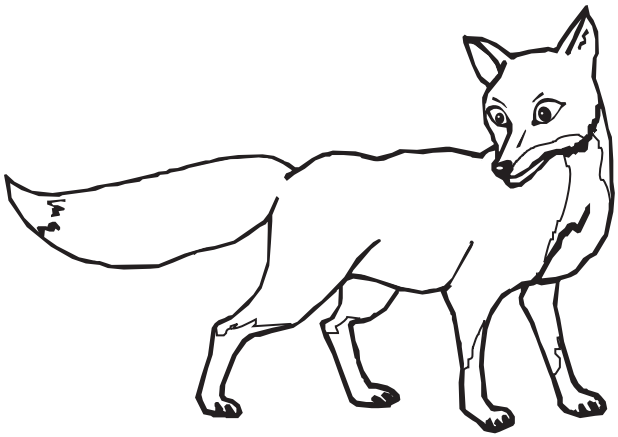
Goats

Martha & Madeline



Mama Pig

Characters from Gingerbread Baby

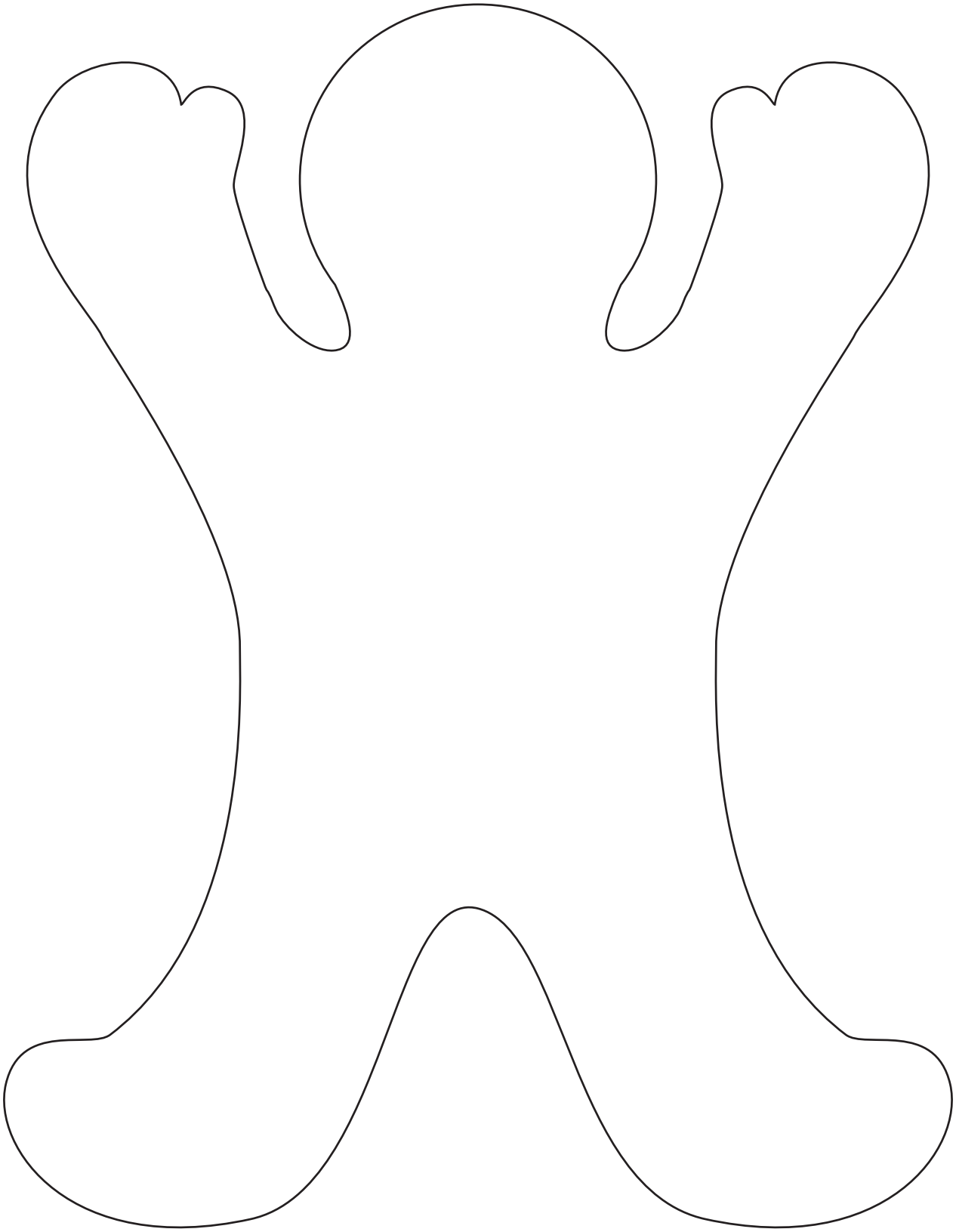


Fox

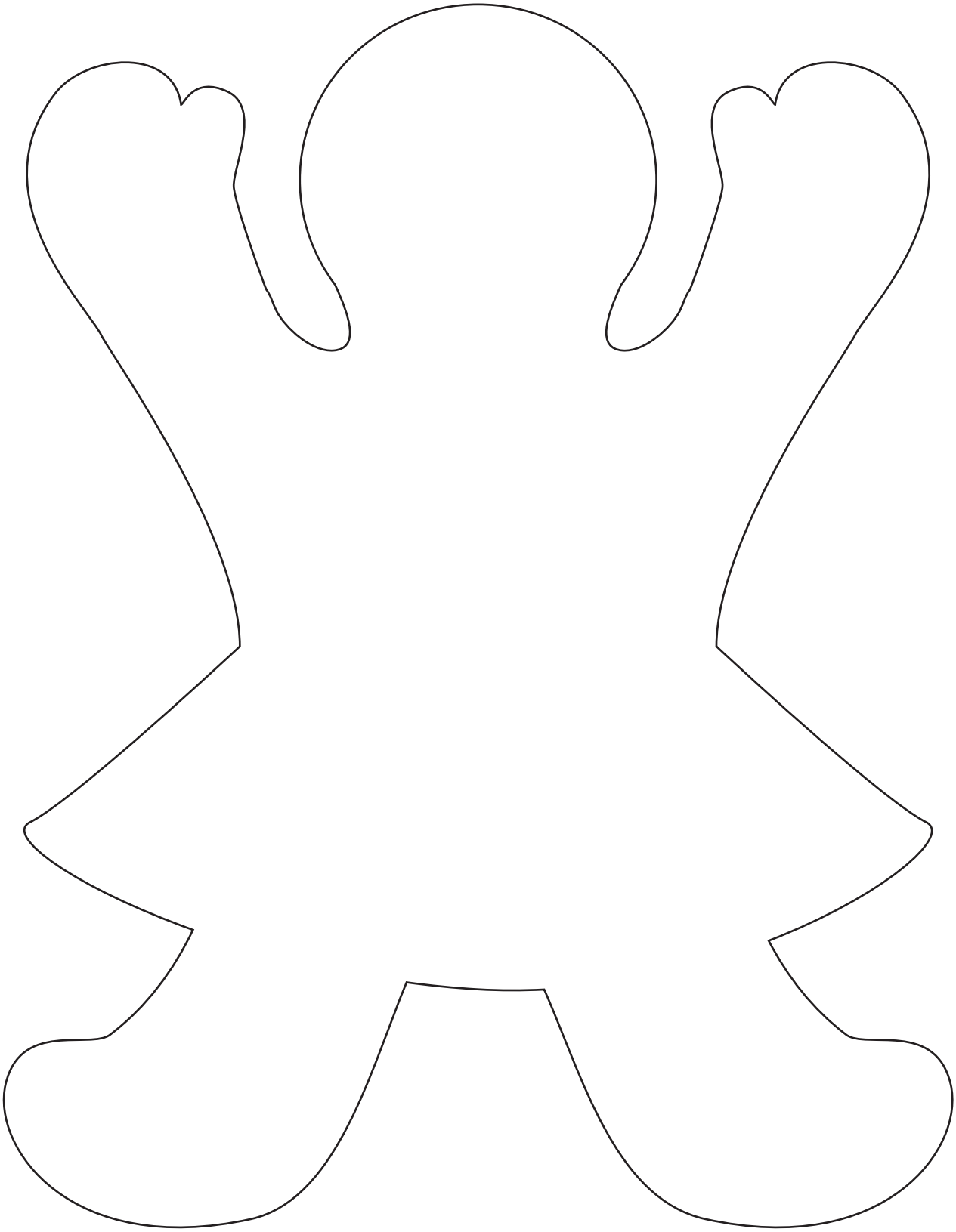
Man Pulling Wagon

Milk Man

Gingerbread Boy Pattern



Gingerbread Boy Pattern



The Gingerbread Baby

Sing to the tune of "The Wheels on the Bus"

The gingerbread baby ran through the town,
Through the town, through the town.
The gingerbread baby ran through the town,
Singing, "Catch me if you can."

He ran away from the c-a-t, c-a-t, c-a-t.
He ran away from the c-a-t,
Singing, "Catch me if you can."

He ran away from the d-o-g, d-o-g, d-o-g.
He ran away from the d-o-g,
Singing, "Catch me if you can."

He ran away from the g-oa-ts, g-oa-ts, g-oa-ts.
He ran away from the g-oa-ts,
Singing, "Catch me if you can."

He ran away from the g-ir-l-z, g-ir-l-z, g-ir-l-z.
He ran away from the g-ir-l-z,
Singing, "Catch me if you can."

He ran away from the p-i-g, p-i-g, p-i-g.
He ran away from the p-i-g,
Singing, "Catch me if you can."

He ran over the b-r-i-dg, b-r-i-dg, b-r-i-dg.
He ran away over the b-r-i-dg,
Singing, "Catch me if you can."

He ran away from the f o-x, f-o-x, f-o-x.
He ran away from the f-o-x,
Singing, "Catch me if you can."

He hid inside the c-a-n, c-a-n, c-a-n.
He hid inside the c-a-n,
Singing, "Catch me if you can."

He ran into the h-ou-s, h-ou-s, h-ou-s
He ran into the h-ou-s
Singing,- "Catch me if you can.

Gingerbread baby said be was as lucky as could be,
Lucky as could be, lucky as could be,
Gingerbread baby said be was lucky as could be
To live in a house that Matti made for me.

2004 Adapted from the Winter Phonemic Awareness book

Content I-3
Activities

Communication

Expressing Thoughts & Feelings

Standard I:
Students will develop a sense of self.

Objective 3:
Develop and use skills to communicate ideas, information, and feelings.

Intended Learning Outcomes:
1. Demonstrate a positive learning attitude.
2. Demonstrate responsible emotional and cognitive behaviors.
3. Communicate clearly in oral, artistic, written, and nonverbal form.

Content Connections:
Language Arts, I-1, 2; Develop language
Math, II-2; Identify and use patterns
Content, II-1, 3; Relationships with family and friends

Content Standard I

Objective 3

Connections

Background Information

As educators, we recognize that an increased ability to communicate thoughts and feelings gives children the skills they need in their interactions with others. Acceptance by peers is not only correlated with positive attitudes toward school; it is a powerful predictor of social adjustment throughout life. For these reasons, it is vital to teach children about their emotions and how to appropriately express thoughts and feelings with others.

Because children learn through play, providing a variety of materials for children's independent learning activities (alone or with peers) is one dimension of effectively responding to individual differences in the classroom. Teachers can accommodate for the many different learning styles within their classrooms by providing a variety of activities for children to explore and discover.

Student with low language skills tend to cluster in the following areas:

1. **ESL:** These students may appear to be competent, yet lack the kind of language knowledge needed for academic success.
2. **Poverty:** Because parents often work several jobs, parents frequently have little or no time to verbally interact with their children. The children have capable minds but poorly developed language.
3. **Learning Problems:** (could be in special education programs, but not always): Some children have specific learning problems that require accommodations or adaptations in the classroom.

4. **Slow Learners:** About one-sixth of the general population are slow learners (IQ falls between 70 and 85). They commonly have much lower oral language vocabularies than their peers and develop in literacy at a much slower pace.
5. **Highly Mobile:** these drop in/drop out children, even with good teaching, miss consistent planned instruction and their oral language development can suffer.

Research Basis

Joseph G.E. and Strain, P.S., (2003). Topics in early childhood special education. *National association for the education of young children*. http://journal.naeyc.org.

Research shows that when educators teach children the key skills they need to understand their emotions and the emotions of others, handle conflicts, problem solve, and develop relationships with peers, their problem behavior decreases and their social skills improve.

Church, E. B., (2004). Everyday word play. *Scholastic parent & child*; Apr/May 2004, 11 (5), p67-68, Retrieved from http://web.ebscohost.com

This research shows that communication is central to the learning process. Literacy is about communicating ideas by any means, and there are plenty of opportunities each day to build these important skills. Providing children the opportunity to choose and carry out learning activities independently supports the development of effective self-direction and intrinsic motivation.

Instructional Procedures

All of the stories and literature should to be presented to the students prior to these activities.

Use *Three Billy Goats Gruff*, the *Three Little Pigs, A Bad, Bad, Day,* and a variety of books about feelings with this activity. The unit teaches about expressing thoughts and feelings. Use Discovery Buckets to allow exploration and communication to occur. Explain that you will introduce five different Discovery Buckets.

Invitation to Learn

Sit your class down in a circle and then show them an ordinary apple. Without explaining why, show the kids that the apple is ordinary and then ask each student to take the apple and give it a good whack on the floor (not too hard). After they look at you like you have gone crazy, they whack it on the floor. After it has passed around the circle and has returned to you, show them the apple again. Show

them that the apple still looks normal on the outside. Next cut it open and show the kids all the bruising and brown spots the whacking did to the apple. This is a great way to illustrate how even though we can't see how we hurt people, on the inside we all have feelings that can be hurt by bad words, etc.

Explain that we will explore five different Discovery Buckets. These buckets will give the students opportunities to practice expressing both their thoughts and feelings.

Materials

- ❏ Bucket
- ❏ *A Bad, Bad, Day*
- ❏ Character puppets
- ❏ Pre-made puppet with facial expressions

Instructional Procedures

Bad Day Discovery Bucket

1. Prior knowledge: read *A Bad, Bad, Day* by Kiersten Hall to class.
2. Students will retell the story using puppets.
3. Students will interchange pre-made facial expressions for the main character throughout the retelling of the story.

Materials

- ❏ Bucket
- ❏ Flannel board
- ❏ Flannel board characters or puppets
- ❏ Books of *Three Billy Goats Gruff* story
- ❏ Cardstock pictures of the characters
- ❏ Popsicle sticks

Flannel Board Discovery Bucket

1. Prior knowledge: *Three Billy Goats Gruff* story.
2. Students will re-enact the *Three Billy Goats Gruff* story using felt or stick characters.
3. Encourage students to use different voices for each character.

Materials

- ❏ Bucket
- ❏ Versions of *The Three Little Pigs*
- ❏ Visors of the characters

Dramatic Discovery Bucket

- Prior knowledge: *The Three Little Pigs* story.
- A variety of different versions of *The Three Little Pigs* story.
- Students will use the visors of the different characters to re-enact the story.
- Encourage students to try at least two versions of the story.

Name Discovery Bucket

- Students will explore Name Puzzles.
- Students will practice recognizing classmate names/pictures with a Memory game.
- Students will create an enlarged Fruit Loop name of their own.
- A variety of related books

Materials

- ❏ Name puzzles of students
- ❏ Photos of students
- ❏ Name cards
- ❏ Memory game
- ❏ 5" tall poster board
- ❏ Fruit Loops
- ❏ Glue bottles
- ❏ Pencils
- ❏ Student list

Books:

My Mommy Doesn't Know My Name, by Suzanne Williams

Chrysanthemum, by Kevin Henkes

A Porcupine Named Fluffy, by Helen Lester

Andy (That's My Name) by Tomie De Paola

Materials

- ❑ Bucket
- ❑ Feelings Cube
- ❑ Feelings Cards
- ❑ Bingo markers

Feelings Discovery Bucket

- Feelings Cube—students take turns role-playing the feeling rolled on the cube.
- Feelings Memory game—students play Memory with photo cards and name cards (backing should be the same color).
- Feelings Bingo—children can play bingo using the feeling pictures in place of the traditional numbers. When you pull a card with a feeling picture out of a bag, ask the children to identify the feeling, make the expression on their faces and then place a marker on the appropriate face on their bingo card.

Books:

Feelings, by Aliki

Today I Feel Silly: And Other Moods That Make My Day, by Jamie Lee Curtis

When Sophie Gets Angry, Really Angry, by Molly Bang

Glad Monster, Sad Monster: A Book About Feelings, by Ed Emberley and Anne Miranda

Assessment Suggestions

- Assess students' understanding of expressing feelings with the *Feelings Meter*.
- Assess students' understanding of feelings by asking them to draw and explain specific emotions from a variety of scenarios.

Curriculum Extensions/Adaptations/ Integration

Word Wall

Create a class word wall with the list of feeling words. If you took photos of students making faces that captured the emotion, you could display them next to the word.

Class Book

With an empty picture frame take photos of students making the emotions discussed in class.

Combine them to create a class emotions book.

Audio Tape

Record the students' retelling of stories and add them to your class audio library.

Check-in Board

Create a check-in board where children place their name clips or photo next to a feeling picture. Follow up with children, talking with them about the emotion they chose and the circumstances related to their feelings. As the day progresses and feelings change, you can facilitate children's changing the placement of their name clips to match their new feelings.

Family Connections

- Encourage families to read books about emotions to their children.
- Send home a vocabulary list of feelings, and ask parents or guardians to use these words during conversations that allow family members to orally describe their emotions and thoughts.
- Encourage families to help draw out their children's feelings when they have a difficult time expressing their feelings in words.

Additional Resources

Books

The Way I Feel—Sometimes, by Beatrice Schenk DeRegniers (Clarion)

You Don't Need Words, by Ruth Belov Gross (Scholastic)

C is for Curious: An ABC of Feelings, by Woodleigh Hubbard (Chronicle Books)

Sometimes I Feel Like a Mouse, by Jeanne Modesitt (Scholastic)

My Many Colored Days, by Dr. Seuss (knopf)

Let's Be Enemies, by Janice Undry

What Makes Me Feel This Way? By Eda LeShan

How are you Peeling? Foods with Moods, by Saxton Freymann and Joost Elffers

Proud of Our Feelings, by Lindsay Leghorn

Giggle Time: Establishing the Social Connection, by Susan Aud Sonders

Happy and Sad, Grouchy and Glad, by Constance Allen

Swimmy, by Leo Lionni

The Very Hungry Caterpillar, by Eric Carle

Strategies for Reading Assessment and Instruction Helping Every Child to Succeed, by D. Ray Reutzel and Robert B. Cooter, Jr. Merrill Prentice Hall

Media

From Pictures to Words (Sarah Lawrence College Child Development Institute

The Sneezing Song and Other Contagious Tunes by Jim Gill

Greg & Steve Playing Favorites by Greg & Steve (1-800-444-4287)

Greg & Steve Kids in Motion by Greg & Steve (1-800-444-4287)

Articles

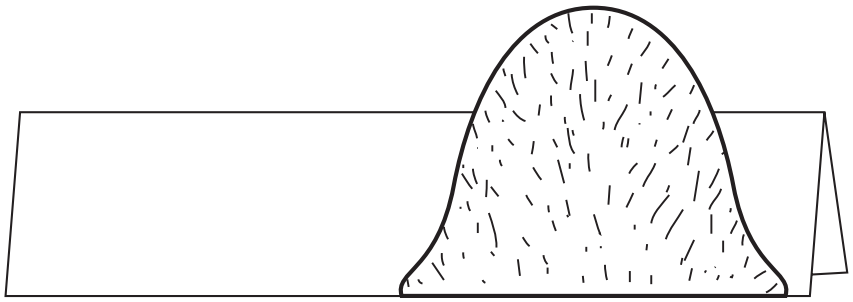
Magazine Title, Publisher; ISBN 1234567890

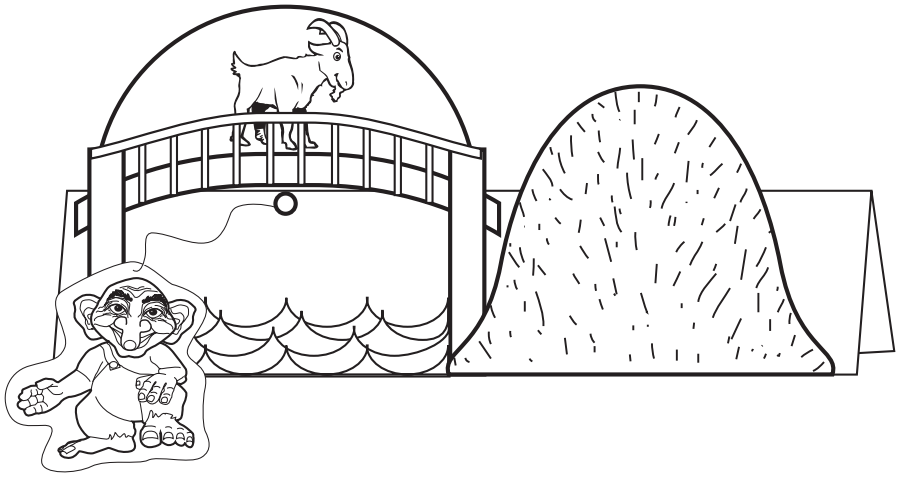
Web sites

http://www.aspires-relationships.com

Billy Goats Gruff Retelling Wheel

Billy Goats Gruff Troll



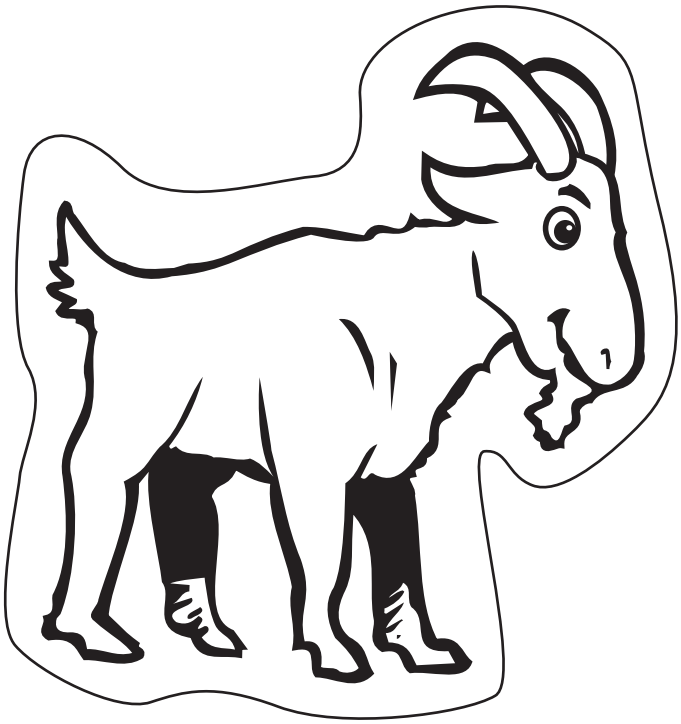


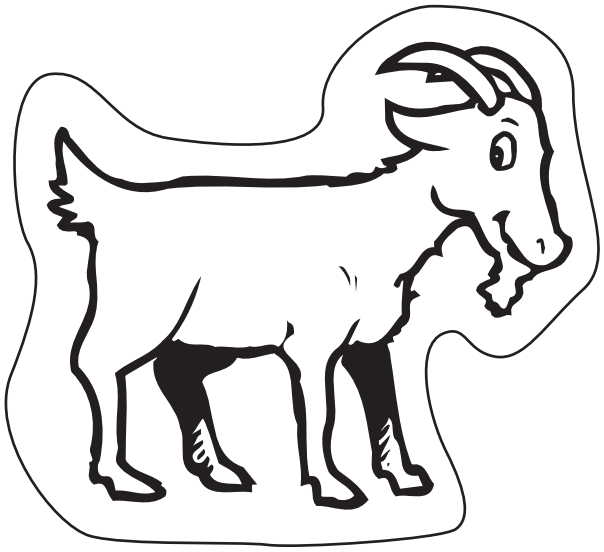
Read several versions of the classic tale. Fold 18 1/2 x 11 paper lengthwise. Children make a big green hill to go on the right side of folded paper.

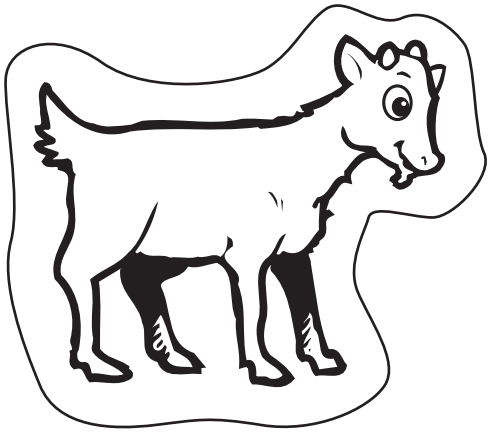
Attach goats wheel to folded paper with brad.

Then children draw with pens, or cut paper bridges for the goats to cross. Attach troll with a string. Children turns wheel and uses troll to retell the story.

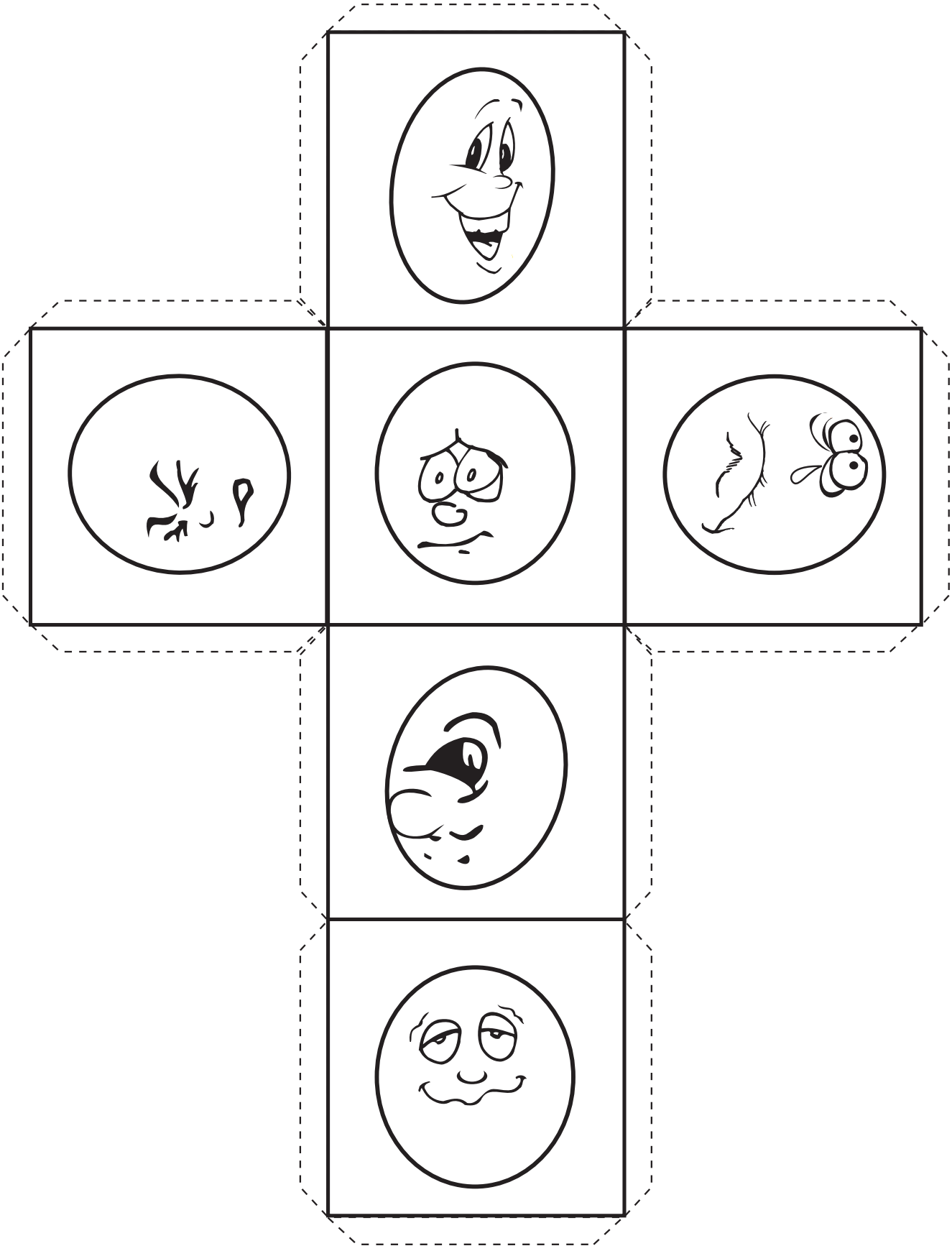
Billy Goats Gruff Puppets



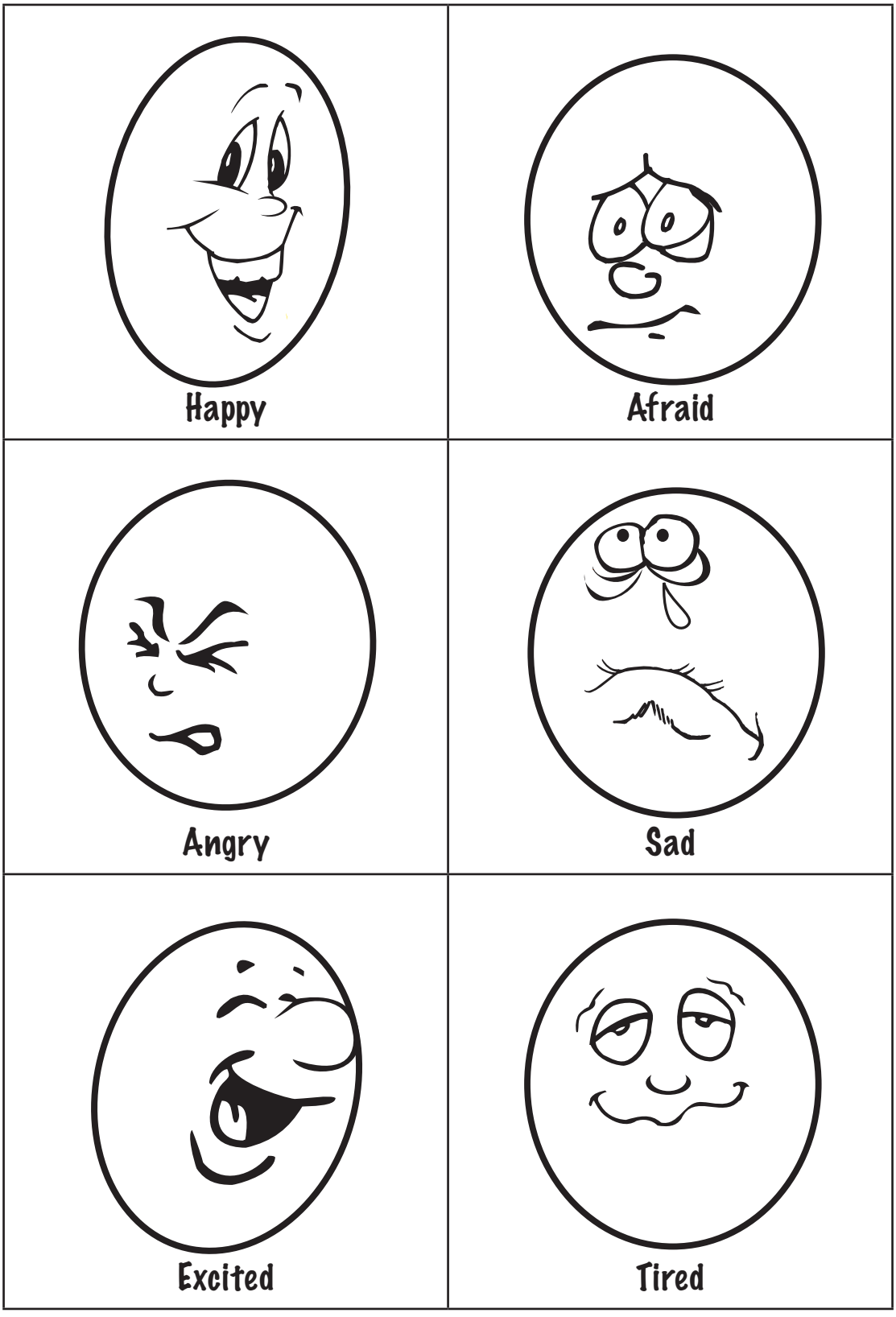




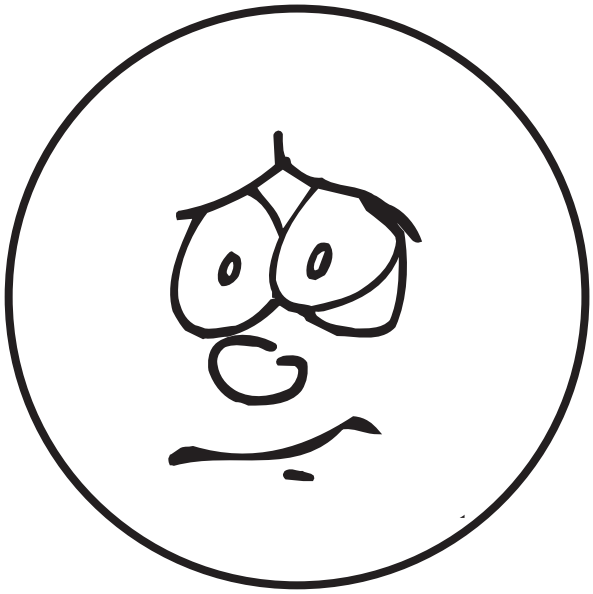
Feelings Cube

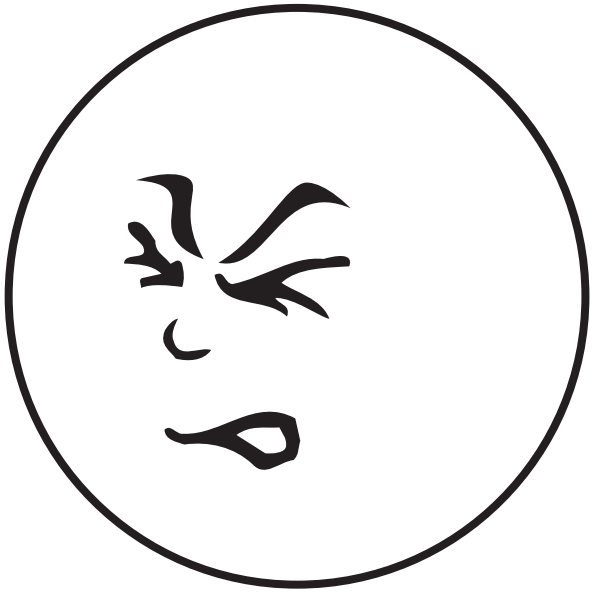


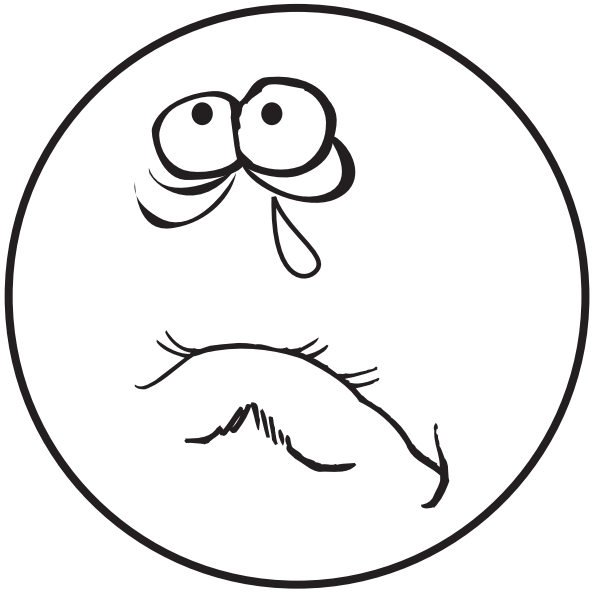
Feelings Cards

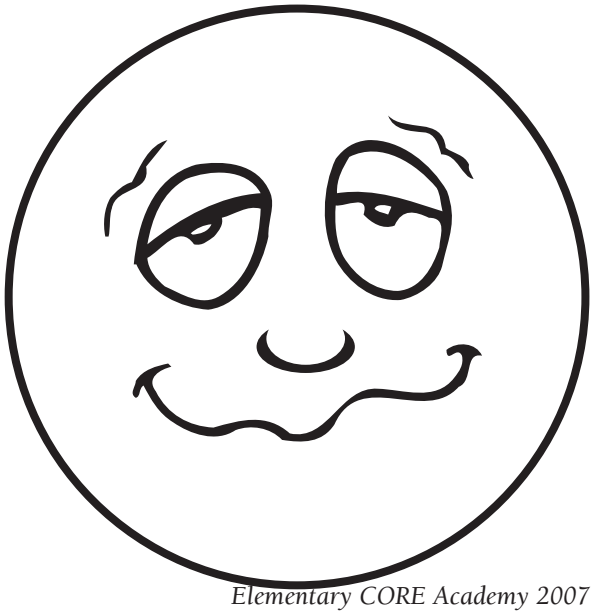


Feelings Puppet Faces

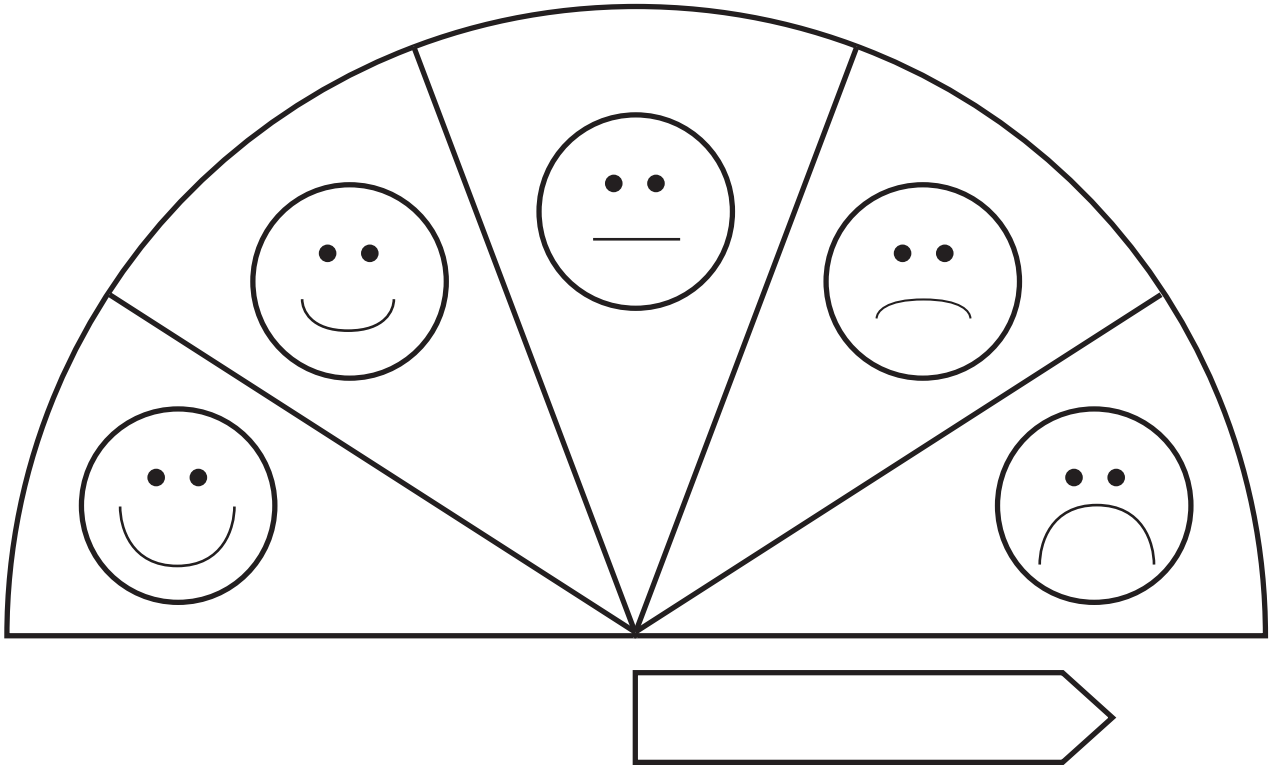




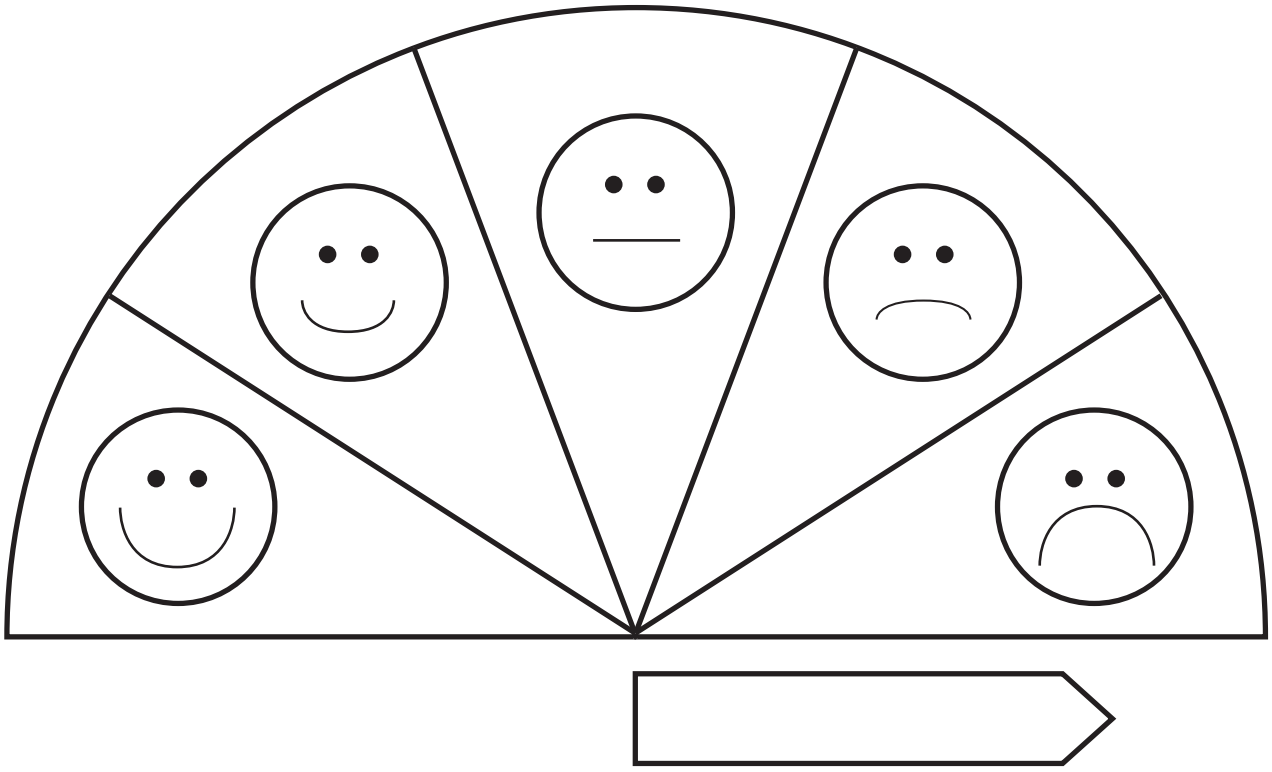




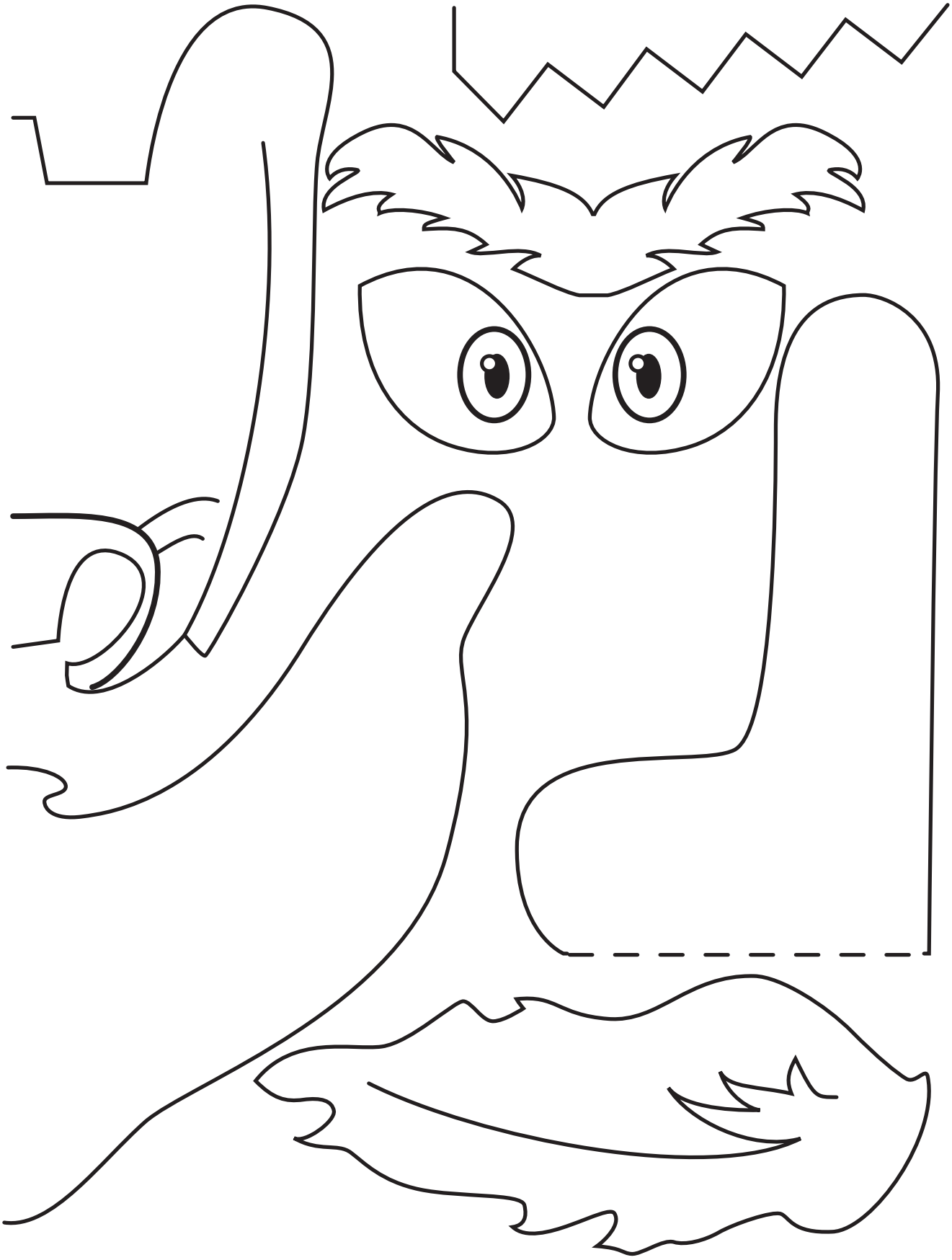
Feelings Meter



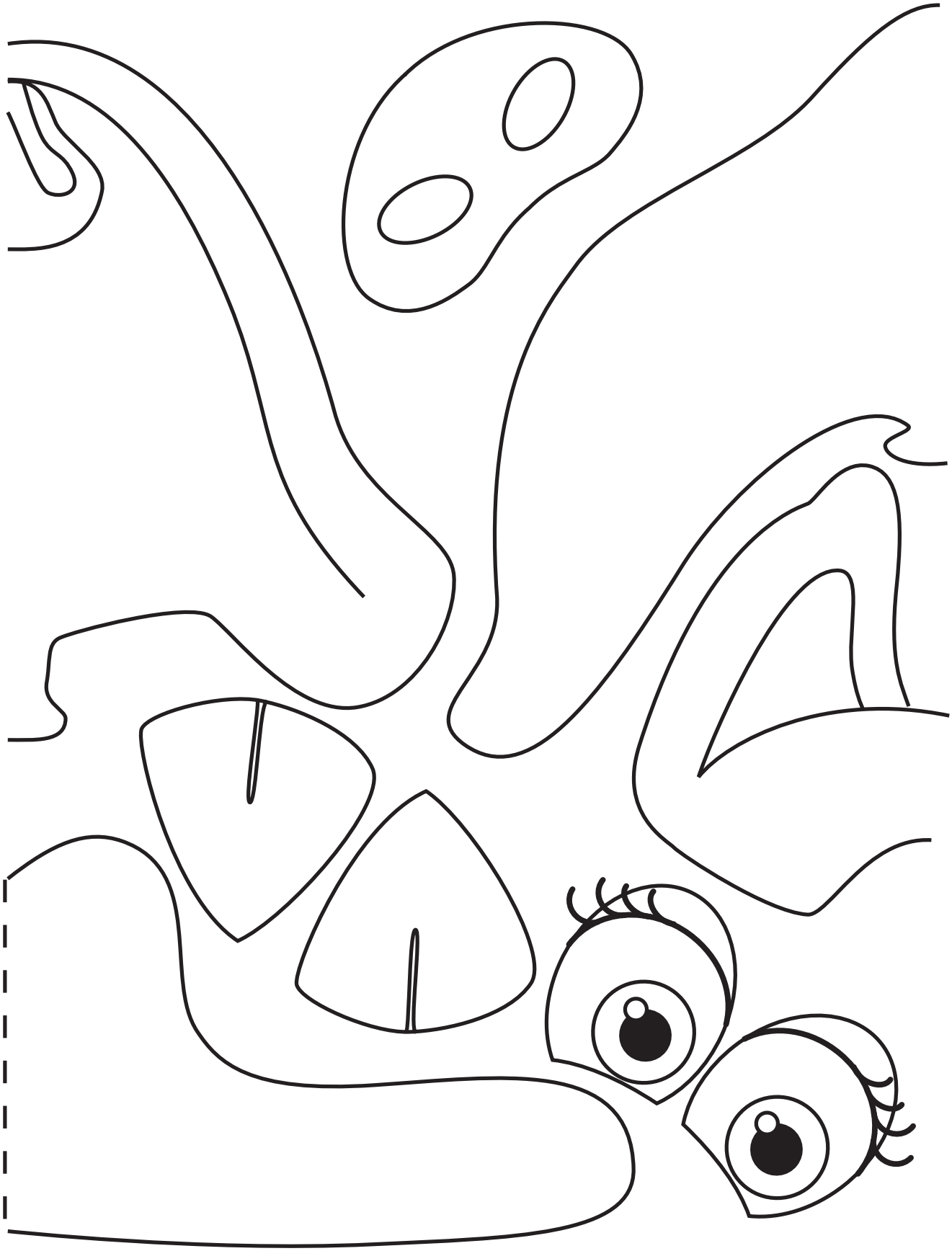
Feelings Meter



Brown Wolf Visor



Pink Pig Visor



Feel the Music

Standard I:
Students will develop a sense of self.

Objective 3:
Develop and use skills to communicate ideas, information, and feelings.

Intended Learning Outcomes:
1. Demonstrate a positive learning attitude.
2. Demonstrate responsible emotional and cognitive behaviors.
3. Communicate clearly in oral, artistic, written, and nonverbal form.

Content Connections:
Language Arts, I-1 & 2; Develop language
Content, I-3; Develop expression of thoughts and feelings, I – 2; Gross and fine motor development

Content Standard 1

Objective 3

Connections

Background Information

Music can greatly affect feelings and emotions. Music is an effective medium through which educators can teach children how to identify and express ideas. Music is a language of sound. Music is linked to all other ways of knowing. Educators can focus on music experiences that build skills and understanding, self-esteem and creative thinking skills. Teachers need to understand music terms (e.g., dynamics, pitch, and duration).

Research Basis

Snyder, S., (1999), *MusicSmart*, Fort Worth, TX.

This research finds that music can help children use emotional states to regulate their lives, and that this skill can be learned. Music reorganizes the brain for effective listening. Singing enhances cognition. Music activates multiple memory pathways to improve chances for retention and recall.

Jensen, E., (1998). *Teaching with the brain in mind.* Association for Supervision and Curriculum Development.

In his research, he states that the collective wisdom from real-world experience, clinical studies, and research support the view that music has strong, positive, neurological system wide effects.

Invitation to Learn

Have students listen to a compilation of music with different dynamics. Discuss how the music affected them. Did it make them sleepy, jumpy, etc.?

Instructional Procedures

Materials

- ❑ Various musical instruments
- ❑ *Music Prompts*
- ❑ Music Chart
- ❑ CD/cassette player
- ❑ Variety of music

Part 1 – Experiencing Music Terms

Instructional Procedures

1. Explain that with music we can describe sounds in terms of **dynamics** (loud/soft), **pitch** (high/low), and **duration** (long/short: fast/slow).
2. Show the students the music prompts for each term: loud—lion, soft—mouse, high-arrow pointed up, low—arrow pointed down, long—long snake, short—inchworm, fast—rabbit, and slow—turtle.
3. Practice using prompts. Choose students for each term. As the class listens to music, help children recognize the different terms within the music. Let several students participate.
4. Choose a familiar song and practice listening for the music terms while singing.
5. Introduce the Music Flower Chart, explaining that the flower will grow when they demonstrate each music term. Practice.

Music Flower Chart: Half of regular poster board, cut "hot dog style," blue and green yarn two feet of each, a large flower (about 18 inch diameter) drawn on cardstock or poster board and cut out. Make a hole towards the top of the poster board. Put one end of the yarn through the hole and tie the two pieces of yarn together with a small knot. Next measure one of the colors straight down. That is where the bottom hole needs to be. Tie the second knot in the back of the poster. When finished, one side should have green yarn and the other side should be blue. Make the holes big enough to allow the yarn to pass through with ease.

Materials

- ❑ CD player
- ❑ Variety of music
- ❑ Open movement area

Part 2 – Move to the Music

1. Invite the class to move to an open area and allow the students to move to the same piece of music.
2. Discuss the way music makes them feel and invite them to move to the music is a way that shows an emotion.
3. Allow students to experience emotions through music.

Part 3 – Music through Art

1. Explain that the last activity will be experiencing music through body and mind.

2. Give each child a tray with construction paper or finger paint paper and pass out paint shirts.
3. Tell the students that they will be listening to music with the lights off. They need to finger paint to the music.
4. Turn the lights on and have each child share his/her picture describing a few feelings experienced.

Finger Paint Recipes

1. Liquid laundry starch, tempera paint for color, a few drops of non-detergent liquid soap.
2. 1 c. cornstarch, 4 c. hot water, 2 envelopes unflavored gelatin, 2 c. cold water, 1 c. detergent.

   Dissolve cornstarch with 1 1/2 c. cold water. Soak gelatin in 1/2 c. cold water. Add cornstarch mixture to hot water. Cook on medium heat till thick, stirring continually. Blend in gelatin and detergent till dissolved. Store in fridge.

Materials

- ❑ Painting trays
- ❑ Construction paper
- ❑ Finger paints
- ❑ Wet wipes
- ❑ Paint shirts
- ❑ CD/cassette player
- ❑ Variety of music.

Assessment Suggestions

- Experiencing Music Terms—An assessment for this could be the use of the Music Flower Chart. Assess with Music Prompts. Make four sets / one for each table, pass them out. Ask students to hold up the correct Music Prompt while the children listen to music.
- Move to the Music—A visual assessment might be best during the movement activity.
- Music through Art—An observation during the activity with questioning afterwards about the experience would be a helpful and quick assessment.

Curriculum Extensions/Adaptations/ Integration

- Writing experience about the feelings the music evoked.
- Listening Center with a variety of music to listen to. Provide paper, crayons, and pencils.

Family Connections

- Send a note home asking parents to think of their favorite songs or a family song. Ask if they could write it down or record it for the class.

- Send a Music Experience Bag home with a mixture of songs for the entire family to experience and ask the student to explain about what he/she learned.

Additional Resources

Books

Five Ugly Monsters, by Tedd Arnold

If You're Angry and You Know It! Cecily Kaiser; ISBN 043972998

Media

The following CD's are great for teaching dynamics, duration & pitch.

Return to Snowy River Part II, by Bruce Rowland

DVORAK Symphony No. 9 "From the New World" Symphonic Variations

Tchaikovsky 1812 Romeo and Juliet – Fantasy Overture, by Chicago Symphony Orchestra

Mr. Holland's Opus, by Michael Kamen

Dr. Jean and Friends CD

Dr. Jean: Keep On Singing and Dancing CD

Dr. Jean: Sing to Learn with Dr. Jean CD

Jim Gill Songs Moving Rhymes Modern Times CD

Jim Gill Sings the Sneezing Song and Other Contagious Tunes CD

Jim Gill Sings Do Re Mi on his Toe Leg Knee CD

Greg & Steve: Kids in Action CD

Greg & Steve: Kids in Motion CD

Greg & Steve: Playing Favorites CD

Greg & Steve: Fun and Games

Stephen Fite: Havin' Fun and Feelin' Groovy CD

Stephen Fite: Watch Me Move CD

Articles

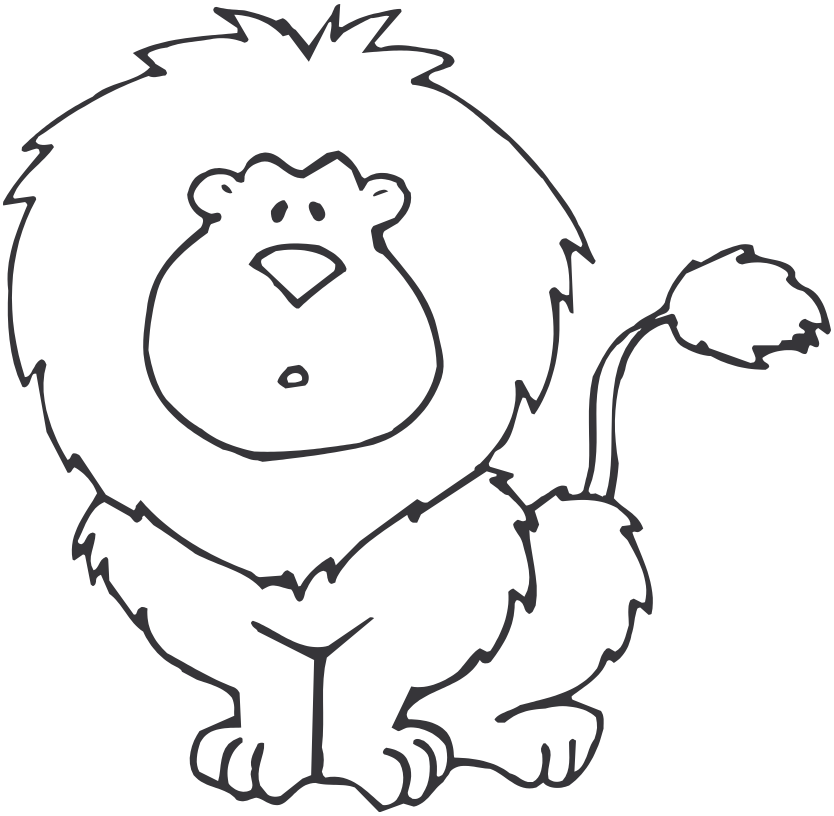
Thinking About Art: Encouraging Art Appreciation In Early Childhood Settings, Young Children (2001).

Web sites

www.csefel.uiuc.edu – Center of the Social and Emotional Foundations for Early Learning

www.casel.org –The Collaborative for Academic, Social, and Emotional Learning

Music Prompts



Music Prompts